Pantheon Report

Generated at 2019-07-12 18:45:30 (UTC).
Data path: India on em1 (remote) → AWS India 1 on ens5 (local).
Repeated the test of 24 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against nets.org.sg and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1041-aws
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 2076e1149a24f3e6db4365d686df32342bf9561f
third_party/fillp @ d6da1459332fceed56963885d7eab17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcd2b093264fc45e12923f9
third_party/genericCC @ d0153f8e694aa89e3b32143cedbfe58e562f4
third_party/indigo @ 2601c92e4aa9d58d38dc4df0ecdfb90c077e6d4
third_party/libutp @ b3465b942e28262f2b179eaab4a906ce6bb7cf3cf
third_party/muses @ 5ce2721187ad823da20955537731c746486ca4966
third_party/muses_dtree @ 8bb93fff2b107204a92b8b72499f0c55e15f00
third_party/pantheon-tunnel @ f86663f5827aaf942717625ee3a354cc2e802bd
third_party/pcc @ 1af9c958fa0d66d18b623c091a55f Cougar872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd08fab92c4eb24f974ab
third_party/proto-quic @ 77961f41ab733a38642f1bc8143ebc978f3c3f42
third_party/scream-reproduce @ f09918d1421aa313bbf11ff1964974e1da3db2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c6c60a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc @ 3f0cc2a9061a41b6f9ddee4735770d143a1fa2851
test from India to AWS India 1, 5 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP BBR</td>
<td>5</td>
<td>58.43 42.19 30.59</td>
<td>51.67 109.57 127.96</td>
<td>1.39 1.49 1.81</td>
</tr>
<tr>
<td>Copa</td>
<td>5</td>
<td>51.68 36.15 28.10</td>
<td>28.12 26.38 27.99</td>
<td>0.07 0.11 0.25</td>
</tr>
<tr>
<td>TCP Cubic</td>
<td>5</td>
<td>57.29 41.72 30.25</td>
<td>28.57 28.89 29.54</td>
<td>0.07 0.13 0.35</td>
</tr>
<tr>
<td>FillP</td>
<td>5</td>
<td>56.74 45.27 25.49</td>
<td>59.35 82.34 76.82</td>
<td>0.29 2.57 3.37</td>
</tr>
<tr>
<td>FillP-Sheep</td>
<td>5</td>
<td>55.67 40.37 35.67</td>
<td>55.06 61.57 71.21</td>
<td>0.11 0.25 0.35</td>
</tr>
<tr>
<td>Indigo</td>
<td>5</td>
<td>58.40 41.15 33.59</td>
<td>28.74 28.61 28.56</td>
<td>0.09 0.25 0.32</td>
</tr>
<tr>
<td>Indigo-MusesC3</td>
<td>5</td>
<td>53.06 35.73 19.34</td>
<td>27.00 26.38 26.79</td>
<td>0.04 0.09 0.51</td>
</tr>
<tr>
<td>Indigo-MusesC5</td>
<td>5</td>
<td>57.01 37.24 40.27</td>
<td>62.42 75.30 58.88</td>
<td>0.80 1.62 1.87</td>
</tr>
<tr>
<td>Indigo-MusesD</td>
<td>5</td>
<td>54.37 39.67 26.10</td>
<td>47.98 48.44 36.90</td>
<td>0.28 0.35 0.54</td>
</tr>
<tr>
<td>Indigo-MusesT</td>
<td>5</td>
<td>61.87 40.15 24.94</td>
<td>62.75 86.51 84.43</td>
<td>0.42 1.06 2.58</td>
</tr>
<tr>
<td>LEDBAT</td>
<td>5</td>
<td>53.16 37.27 31.20</td>
<td>31.21 32.93 33.70</td>
<td>0.08 0.14 0.38</td>
</tr>
<tr>
<td>Muses_DecisionTree</td>
<td>5</td>
<td>40.83 39.46 54.73</td>
<td>869.16 1046.61 1259.02</td>
<td>0.84 1.82 2.98</td>
</tr>
<tr>
<td>Muses_DecisionTreeH0</td>
<td>5</td>
<td>41.46 40.31 51.17</td>
<td>781.81 1194.45 1526.87</td>
<td>1.60 1.93 5.18</td>
</tr>
<tr>
<td>Muses_DecisionTreeR0</td>
<td>5</td>
<td>43.22 39.63 44.97</td>
<td>873.71 1087.57 1138.62</td>
<td>0.63 2.10 3.97</td>
</tr>
<tr>
<td>PCC-Allegro</td>
<td>5</td>
<td>61.77 38.16 20.73</td>
<td>1857.75 1498.07 104.58</td>
<td>10.08 9.65 1.44</td>
</tr>
<tr>
<td>PCC-Expr</td>
<td>5</td>
<td>59.91 32.26 31.15</td>
<td>961.05 789.39 167.41</td>
<td>26.81 5.77 2.37</td>
</tr>
<tr>
<td>QUIC Cubic</td>
<td>5</td>
<td>57.61 39.03 29.31</td>
<td>32.49 31.53 42.94</td>
<td>0.10 0.20 0.50</td>
</tr>
<tr>
<td>SCReAM</td>
<td>5</td>
<td>0.21 0.21 0.21</td>
<td>20.58 20.57 20.61</td>
<td>0.10 0.19 0.35</td>
</tr>
<tr>
<td>Sprout</td>
<td>5</td>
<td>24.23 24.16 23.68</td>
<td>28.76 29.41 29.89</td>
<td>0.09 0.18 0.33</td>
</tr>
<tr>
<td>TaoVA-100x</td>
<td>5</td>
<td>59.71 37.51 27.66</td>
<td>87.54 175.08 177.52</td>
<td>0.35 0.87 2.20</td>
</tr>
<tr>
<td>TCP Vegas</td>
<td>5</td>
<td>52.73 37.65 41.90</td>
<td>22.97 22.92 23.01</td>
<td>0.06 0.16 0.27</td>
</tr>
<tr>
<td>Verus</td>
<td>5</td>
<td>55.03 41.31 32.70</td>
<td>75.38 77.37 161.95</td>
<td>0.19 0.35 0.73</td>
</tr>
<tr>
<td>PCC-Vivace</td>
<td>5</td>
<td>53.87 31.47 20.90</td>
<td>328.22 32.17 27.37</td>
<td>0.53 0.15 0.36</td>
</tr>
<tr>
<td>WebRTC media</td>
<td>5</td>
<td>1.61 0.88 0.40</td>
<td>22.04 22.00 21.98</td>
<td>0.02 0.00 0.28</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2019-07-12 16:06:32
End at: 2019-07-12 16:07:02
Local clock offset: 2.442 ms
Remote clock offset: -3.218 ms

# Below is generated by plot.py at 2019-07-12 18:28:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.88 Mbit/s
  95th percentile per-packet one-way delay: 76.308 ms
  Loss rate: 1.43%
-- Flow 1:
  Average throughput: 58.91 Mbit/s
  95th percentile per-packet one-way delay: 46.615 ms
  Loss rate: 1.34%
-- Flow 2:
  Average throughput: 40.51 Mbit/s
  95th percentile per-packet one-way delay: 109.115 ms
  Loss rate: 1.54%
-- Flow 3:
  Average throughput: 33.14 Mbit/s
  95th percentile per-packet one-way delay: 112.053 ms
  Loss rate: 1.62%
Run 1: Report of TCP BBR — Data Link

![Graph of Throughput and Delay]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 59.66 Mbps)
  - Flow 1 egress (mean 58.91 Mbps)
  - Flow 2 ingress (mean 41.09 Mbps)
  - Flow 2 egress (mean 40.51 Mbps)
  - Flow 3 ingress (mean 33.59 Mbps)
  - Flow 3 egress (mean 33.14 Mbps)

- **Delay (ms):**
  - Flow 1 (95th percentile 46.62 ms)
  - Flow 2 (95th percentile 109.11 ms)
  - Flow 3 (95th percentile 112.05 ms)
Run 2: Statistics of TCP BBR

Start at: 2019-07-12 16:36:06
End at: 2019-07-12 16:36:36
Local clock offset: 3.804 ms
Remote clock offset: -1.304 ms

# Below is generated by plot.py at 2019-07-12 18:28:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.02 Mbit/s
95th percentile per-packet one-way delay: 80.607 ms
Loss rate: 1.50%
-- Flow 1:
Average throughput: 59.25 Mbit/s
95th percentile per-packet one-way delay: 58.490 ms
Loss rate: 1.51%
-- Flow 2:
Average throughput: 41.08 Mbit/s
95th percentile per-packet one-way delay: 110.108 ms
Loss rate: 1.42%
-- Flow 3:
Average throughput: 28.37 Mbit/s
95th percentile per-packet one-way delay: 47.222 ms
Loss rate: 1.64%
Run 2: Report of TCP BBR — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 60.10 Mbps)
  - Flow 1 egress (mean 59.25 Mbps)
  - Flow 2 ingress (mean 41.61 Mbps)
  - Flow 2 egress (mean 41.08 Mbps)
  - Flow 3 ingress (mean 28.76 Mbps)
  - Flow 3 egress (mean 28.37 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 58.49 ms)
  - Flow 2 (95th percentile 110.11 ms)
  - Flow 3 (95th percentile 47.22 ms)
Run 3: Statistics of TCP BBR

Start at: 2019-07-12 17:05:54
End at: 2019-07-12 17:06:24
Local clock offset: 3.129 ms
Remote clock offset: -2.504 ms

# Below is generated by plot.py at 2019-07-12 18:28:53
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.97 Mbit/s
  95th percentile per-packet one-way delay: 83.680 ms
  Loss rate: 1.42%
-- Flow 1:
  Average throughput: 56.33 Mbit/s
  95th percentile per-packet one-way delay: 54.651 ms
  Loss rate: 1.32%
-- Flow 2:
  Average throughput: 48.35 Mbit/s
  95th percentile per-packet one-way delay: 111.277 ms
  Loss rate: 1.44%
-- Flow 3:
  Average throughput: 25.40 Mbit/s
  95th percentile per-packet one-way delay: 234.803 ms
  Loss rate: 1.96%
Run 3: Report of TCP BBR — Data Link
Run 4: Statistics of TCP BBR

Start at: 2019-07-12 17:35:18
End at: 2019-07-12 17:35:48
Local clock offset: 2.447 ms
Remote clock offset: -3.062 ms

# Below is generated by plot.py at 2019-07-12 18:28:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.71 Mbit/s
95th percentile per-packet one-way delay: 81.303 ms
Loss rate: 1.61%

-- Flow 1:
Average throughput: 58.77 Mbit/s
95th percentile per-packet one-way delay: 52.043 ms
Loss rate: 1.62%

-- Flow 2:
Average throughput: 40.52 Mbit/s
95th percentile per-packet one-way delay: 108.658 ms
Loss rate: 1.59%

-- Flow 3:
Average throughput: 33.02 Mbit/s
95th percentile per-packet one-way delay: 120.530 ms
Loss rate: 1.62%
Run 4: Report of TCP BBR — Data Link
Run 5: Statistics of TCP BBR

Start at: 2019-07-12 18:04:38
End at: 2019-07-12 18:05:08
Local clock offset: 4.864 ms
Remote clock offset: -4.393 ms

# Below is generated by plot.py at 2019-07-12 18:28:53
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.83 Mbit/s
95th percentile per-packet one-way delay: 75.897 ms
Loss rate: 1.36%
-- Flow 1:
Average throughput: 58.88 Mbit/s
95th percentile per-packet one-way delay: 46.546 ms
Loss rate: 1.14%
-- Flow 2:
Average throughput: 40.49 Mbit/s
95th percentile per-packet one-way delay: 108.703 ms
Loss rate: 1.46%
-- Flow 3:
Average throughput: 33.04 Mbit/s
95th percentile per-packet one-way delay: 125.193 ms
Loss rate: 2.23%
Run 5: Report of TCP BBR — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.]

Legend:
- Flow 1 ingress (mean 59.51 Mbit/s)
- Flow 1 egress (mean 58.88 Mbit/s)
- Flow 2 ingress (mean 41.04 Mbit/s)
- Flow 2 egress (mean 40.49 Mbit/s)
- Flow 3 ingress (mean 33.70 Mbit/s)
- Flow 3 egress (mean 33.04 Mbit/s)

Legend for delay:
- Flow 1 (95th percentile 46.55 ms)
- Flow 2 (95th percentile 108.70 ms)
- Flow 3 (95th percentile 125.19 ms)
Run 1: Statistics of Copa

Start at: 2019-07-12 16:26:14
End at: 2019-07-12 16:26:44
Local clock offset: 1.209 ms
Remote clock offset: -0.667 ms

# Below is generated by plot.py at 2019-07-12 18:29:35
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.38 Mbit/s
95th percentile per-packet one-way delay: 26.624 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 46.10 Mbit/s
95th percentile per-packet one-way delay: 28.610 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 35.75 Mbit/s
95th percentile per-packet one-way delay: 24.731 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 31.59 Mbit/s
95th percentile per-packet one-way delay: 23.364 ms
Loss rate: 0.35%
Run 1: Report of Copa — Data Link

![Graph: Throughput (Mbps)]

Flow 1 ingress (mean 46.08 Mbps)  
Flow 1 egress (mean 46.10 Mbps)  
Flow 2 ingress (mean 35.74 Mbps)  
Flow 2 egress (mean 35.75 Mbps)  
Flow 3 ingress (mean 31.61 Mbps)  
Flow 3 egress (mean 31.59 Mbps)

![Graph: Per packet one-way delay (ms)]

Flow 1 (95th percentile 28.61 ms)  
Flow 2 (95th percentile 24.73 ms)  
Flow 3 (95th percentile 23.36 ms)
Run 2: Statistics of Copa

Start at: 2019-07-12 16:55:52
End at: 2019-07-12 16:56:22
Local clock offset: 3.684 ms
Remote clock offset: -0.592 ms

# Below is generated by plot.py at 2019-07-12 18:29:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 86.69 Mbit/s
95th percentile per-packet one-way delay: 25.869 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 51.49 Mbit/s
95th percentile per-packet one-way delay: 24.085 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 40.60 Mbit/s
95th percentile per-packet one-way delay: 26.592 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 24.62 Mbit/s
95th percentile per-packet one-way delay: 32.460 ms
Loss rate: 0.16%
Run 2: Report of Copa — Data Link

![Graph of throughput and packet loss over time]

- **Flow 1 ingress (mean 51.47 Mbit/s)**
- **Flow 1 egress (mean 51.49 Mbit/s)**
- **Flow 2 ingress (mean 40.60 Mbit/s)**
- **Flow 2 egress (mean 40.60 Mbit/s)**
- **Flow 3 ingress (mean 24.58 Mbit/s)**
- **Flow 3 egress (mean 24.62 Mbit/s)**

![Graph of packet loss over time]

- **Flow 1 (95th percentile 24.09 ms)**
- **Flow 2 (95th percentile 26.59 ms)**
- **Flow 3 (95th percentile 32.46 ms)**
Run 3: Statistics of Copa

Start at: 2019-07-12 17:25:31
End at: 2019-07-12 17:26:01
Local clock offset: 2.314 ms
Remote clock offset: -3.994 ms

# Below is generated by plot.py at 2019-07-12 18:29:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 82.87 Mbit/s
  95th percentile per-packet one-way delay: 29.688 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 54.07 Mbit/s
  95th percentile per-packet one-way delay: 31.370 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 29.63 Mbit/s
  95th percentile per-packet one-way delay: 26.439 ms
  Loss rate: 0.15%
-- Flow 3:
  Average throughput: 27.30 Mbit/s
  95th percentile per-packet one-way delay: 26.956 ms
  Loss rate: 0.23%
Run 3: Report of Copa — Data Link

![Graph 1: Throughput vs. Time (s)]

- **Flow 1 ingress** (mean 54.05 Mbit/s)
- **Flow 1 egress** (mean 54.07 Mbit/s)
- **Flow 2 ingress** (mean 29.64 Mbit/s)
- **Flow 2 egress** (mean 29.63 Mbit/s)
- **Flow 3 ingress** (mean 27.29 Mbit/s)
- **Flow 3 egress** (mean 27.30 Mbit/s)

![Graph 2: Per-packet one-way delay vs. Time (s)]

- **Flow 1** (95th percentile 31.37 ms)
- **Flow 2** (95th percentile 26.44 ms)
- **Flow 3** (95th percentile 26.96 ms)
Run 4: Statistics of Copa

Start at: 2019-07-12 17:54:50
End at: 2019-07-12 17:55:20
Local clock offset: 2.519 ms
Remote clock offset: -4.595 ms

# Below is generated by plot.py at 2019-07-12 18:30:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.12 Mbit/s
95th percentile per-packet one-way delay: 27.041 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 53.94 Mbit/s
95th percentile per-packet one-way delay: 27.673 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 37.44 Mbit/s
95th percentile per-packet one-way delay: 25.367 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 27.82 Mbit/s
95th percentile per-packet one-way delay: 29.194 ms
Loss rate: 0.39%
Run 4: Report of Copa — Data Link

![Graph 1: Throughput (Mbps)](image1)

- Flow 1 ingress (mean 53.91 Mbps)
- Flow 1 egress (mean 53.94 Mbps)
- Flow 2 ingress (mean 37.45 Mbps)
- Flow 2 egress (mean 37.44 Mbps)
- Flow 3 ingress (mean 27.86 Mbps)
- Flow 3 egress (mean 27.62 Mbps)

![Graph 2: Per-packet one-way delay (ms)](image2)

- Flow 1 (95th percentile 27.67 ms)
- Flow 2 (95th percentile 25.37 ms)
- Flow 3 (95th percentile 29.19 ms)
Run 5: Statistics of Copa

Start at: 2019-07-12 18:24:22
End at: 2019-07-12 18:24:52
Local clock offset: 9.112 ms
Remote clock offset: -5.248 ms

# Below is generated by plot.py at 2019-07-12 18:30:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 87.31 Mbit/s
  95th percentile per-packet one-way delay: 28.692 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 52.78 Mbit/s
  95th percentile per-packet one-way delay: 28.852 ms
  Loss rate: 0.15%
-- Flow 2:
  Average throughput: 37.32 Mbit/s
  95th percentile per-packet one-way delay: 28.757 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 29.16 Mbit/s
  95th percentile per-packet one-way delay: 27.963 ms
  Loss rate: 0.14%
Run 5: Report of Copa — Data Link
Run 1: Statistics of TCP Cubic

Start at: 2019-07-12 16:17:57
End at: 2019-07-12 16:18:27
Local clock offset: 3.087 ms
Remote clock offset: -1.359 ms

# Below is generated by plot.py at 2019-07-12 18:30:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.44 Mbit/s
95th percentile per-packet one-way delay: 28.627 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 56.11 Mbit/s
95th percentile per-packet one-way delay: 28.233 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 40.02 Mbit/s
95th percentile per-packet one-way delay: 28.743 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 32.22 Mbit/s
95th percentile per-packet one-way delay: 29.289 ms
Loss rate: 0.30%
Run 1: Report of TCP Cubic — Data Link
Run 2: Statistics of TCP Cubic

Start at: 2019-07-12 16:47:29
End at: 2019-07-12 16:47:59
Local clock offset: 3.24 ms
Remote clock offset: -1.042 ms

# Below is generated by plot.py at 2019-07-12 18:30:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.42 Mbit/s
95th percentile per-packet one-way delay: 27.934 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 63.95 Mbit/s
95th percentile per-packet one-way delay: 27.550 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 36.56 Mbit/s
95th percentile per-packet one-way delay: 28.498 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 29.665 ms
Loss rate: 0.28%
Run 2: Report of TCP Cubic — Data Link

![Graph showing throughput and packet loss over time for different flows.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 63.95 Mbps)
  - Flow 1 egress (mean 63.95 Mbps)
  - Flow 2 ingress (mean 36.56 Mbps)
  - Flow 2 egress (mean 36.56 Mbps)
  - Flow 3 ingress (mean 24.51 Mbps)
  - Flow 3 egress (mean 24.51 Mbps)

- **Packet Loss Delay (ms):**
  - Flow 1 (95th percentile 27.55 ms)
  - Flow 2 (95th percentile 28.50 ms)
  - Flow 3 (95th percentile 29.66 ms)
Run 3: Statistics of TCP Cubic

Start at: 2019-07-12 17:17:16
End at: 2019-07-12 17:17:46
Local clock offset: 2.685 ms
Remote clock offset: -2.448 ms

# Below is generated by plot.py at 2019-07-12 18:30:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.79 Mbit/s
95th percentile per-packet one-way delay: 29.116 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 55.72 Mbit/s
95th percentile per-packet one-way delay: 28.943 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 37.37 Mbit/s
95th percentile per-packet one-way delay: 29.928 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 45.77 Mbit/s
95th percentile per-packet one-way delay: 28.451 ms
Loss rate: 0.34%
Run 3: Report of TCP Cubic — Data Link

![Graph showing network performance metrics for different flows.](image_url)
Run 4: Statistics of TCP Cubic

Start at: 2019-07-12 17:46:33
End at: 2019-07-12 17:47:03
Local clock offset: 3.013 ms
Remote clock offset: -3.291 ms

# Below is generated by plot.py at 2019-07-12 18:30:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.84 Mbit/s
95th percentile per-packet one-way delay: 28.727 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 55.41 Mbit/s
95th percentile per-packet one-way delay: 28.557 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 47.06 Mbit/s
95th percentile per-packet one-way delay: 28.635 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 24.43 Mbit/s
95th percentile per-packet one-way delay: 30.492 ms
Loss rate: 0.50%
Run 4: Report of TCP Cubic — Data Link

![Graphs showing throughput and per-packet one-way delay over time for different flows.]
Run 5: Statistics of TCP Cubic

Start at: 2019-07-12 18:15:53
End at: 2019-07-12 18:16:23
Local clock offset: 7.771 ms
Remote clock offset: -4.373 ms

# Below is generated by plot.py at 2019-07-12 18:30:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.01 Mbit/s
95th percentile per-packet one-way delay: 29.224 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 55.26 Mbit/s
95th percentile per-packet one-way delay: 29.572 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 47.58 Mbit/s
95th percentile per-packet one-way delay: 28.626 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 24.33 Mbit/s
95th percentile per-packet one-way delay: 29.782 ms
Loss rate: 0.33%
Run 1: Statistics of FillP

Start at: 2019-07-12 16:25:02
End at: 2019-07-12 16:25:32
Local clock offset: 0.007 ms
Remote clock offset: 0.13 ms

# Below is generated by plot.py at 2019-07-12 18:31:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.29 Mbit/s
95th percentile per-packet one-way delay: 75.285 ms
Loss rate: 1.28%
-- Flow 1:
Average throughput: 57.03 Mbit/s
95th percentile per-packet one-way delay: 51.210 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 41.45 Mbit/s
95th percentile per-packet one-way delay: 86.581 ms
Loss rate: 3.08%
-- Flow 3:
Average throughput: 31.95 Mbit/s
95th percentile per-packet one-way delay: 70.462 ms
Loss rate: 2.82%
Run 1: Report of FillP — Data Link
Run 2: Statistics of FillP

Start at: 2019-07-12 16:54:38  
End at: 2019-07-12 16:55:08  
Local clock offset: 3.309 ms  
Remote clock offset: -1.598 ms

# Below is generated by plot.py at 2019-07-12 18:31:28  
# Datalink statistics
-- Total of 3 flows:  
Average throughput: 95.32 Mbit/s  
95th percentile per-packet one-way delay: 73.714 ms  
Loss rate: 1.66%  
-- Flow 1:  
Average throughput: 62.16 Mbit/s  
95th percentile per-packet one-way delay: 46.977 ms  
Loss rate: 0.16%  
-- Flow 2:  
Average throughput: 38.01 Mbit/s  
95th percentile per-packet one-way delay: 92.834 ms  
Loss rate: 4.18%  
-- Flow 3:  
Average throughput: 23.69 Mbit/s  
95th percentile per-packet one-way delay: 82.463 ms  
Loss rate: 4.88%
Run 2: Report of FillP — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 62.22 Mbit/s)
Flow 1 egress (mean 62.16 Mbit/s)
Flow 2 ingress (mean 39.64 Mbit/s)
Flow 2 egress (mean 38.01 Mbit/s)
Flow 3 ingress (mean 24.84 Mbit/s)
Flow 3 egress (mean 23.69 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 46.98 ms)
Flow 2 (95th percentile 92.83 ms)
Flow 3 (95th percentile 82.48 ms)
Run 3: Statistics of FillP

Start at: 2019-07-12 17:24:18
End at: 2019-07-12 17:24:48
Local clock offset: 2.562 ms
Remote clock offset: -1.5 ms

# Below is generated by plot.py at 2019-07-12 18:31:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.21 Mbit/s
95th percentile per-packet one-way delay: 80.976 ms
Loss rate: 1.31%
-- Flow 1:
Average throughput: 54.78 Mbit/s
95th percentile per-packet one-way delay: 67.198 ms
Loss rate: 0.36%
-- Flow 2:
Average throughput: 48.91 Mbit/s
95th percentile per-packet one-way delay: 87.197 ms
Loss rate: 2.35%
-- Flow 3:
Average throughput: 23.67 Mbit/s
95th percentile per-packet one-way delay: 74.990 ms
Loss rate: 3.48%
Run 3: Report of FillP — Data Link

![Graph showing throughput and packet delay over time for different flows.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 54.93 Mbps)
  - Flow 2 ingress (mean 50.63 Mbps)
  - Flow 3 ingress (mean 24.45 Mbps)
  - Flow 1 egress (mean 54.78 Mbps)
  - Flow 2 egress (mean 48.91 Mbps)
  - Flow 3 egress (mean 23.67 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 67.20 ms)
  - Flow 2 (95th percentile 87.20 ms)
  - Flow 3 (95th percentile 74.99 ms)
Run 4: Statistics of FillP

Start at: 2019-07-12 17:53:37
End at: 2019-07-12 17:54:07
Local clock offset: 2.302 ms
Remote clock offset: -4.553 ms

# Below is generated by plot.py at 2019-07-12 18:31:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.28 Mbit/s
95th percentile per-packet one-way delay: 68.886 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 54.24 Mbit/s
95th percentile per-packet one-way delay: 65.600 ms
Loss rate: 0.44%
-- Flow 2:
Average throughput: 49.65 Mbit/s
95th percentile per-packet one-way delay: 69.806 ms
Loss rate: 1.52%
-- Flow 3:
Average throughput: 24.06 Mbit/s
95th percentile per-packet one-way delay: 70.689 ms
Loss rate: 1.91%
Run 4: Report of FillP — Data Link

![Graph showing throughput and per-packet end-to-end delay over time for different flows.]

- **Flow 1 ingress (mean 54.44 Mbit/s)**
- **Flow 1 egress (mean 54.24 Mbit/s)**
- **Flow 2 ingress (mean 50.36 Mbit/s)**
- **Flow 2 egress (mean 49.65 Mbit/s)**
- **Flow 3 ingress (mean 24.49 Mbit/s)**
- **Flow 3 egress (mean 24.06 Mbit/s)**
Run 5: Statistics of FillP

Start at: 2019-07-12 18:23:04
End at: 2019-07-12 18:23:34
Local clock offset: 9.305 ms
Remote clock offset: -3.237 ms

# Below is generated by plot.py at 2019-07-12 18:32:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 95.64 Mbit/s
95th percentile per-packet one-way delay: 75.213 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 55.47 Mbit/s
95th percentile per-packet one-way delay: 65.778 ms
Loss rate: 0.41%
-- Flow 2:
Average throughput: 48.34 Mbit/s
95th percentile per-packet one-way delay: 75.277 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 24.09 Mbit/s
95th percentile per-packet one-way delay: 85.482 ms
Loss rate: 3.77%
Run 5: Report of FillP — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 55.66 Mbps)  Flow 1 egress (mean 55.47 Mbps)
Flow 2 ingress (mean 49.16 Mbps)  Flow 2 egress (mean 48.34 Mbps)
Flow 3 ingress (mean 24.97 Mbps)  Flow 3 egress (mean 24.09 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 65.78 ms)  Flow 2 (95th percentile 75.28 ms)  Flow 3 (95th percentile 84.48 ms)
Run 1: Statistics of FillP-Sheep

Start at: 2019-07-12 16:04:05
End at: 2019-07-12 16:04:35
Local clock offset: 5.91 ms
Remote clock offset: -2.291 ms

# Below is generated by plot.py at 2019-07-12 18:32:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.52 Mbit/s
  95th percentile per-packet one-way delay: 64.911 ms
  Loss rate: 0.22%
-- Flow 1:
  Average throughput: 52.92 Mbit/s
  95th percentile per-packet one-way delay: 62.633 ms
  Loss rate: 0.09%
-- Flow 2:
  Average throughput: 41.33 Mbit/s
  95th percentile per-packet one-way delay: 65.610 ms
  Loss rate: 0.38%
-- Flow 3:
  Average throughput: 42.53 Mbit/s
  95th percentile per-packet one-way delay: 66.866 ms
  Loss rate: 0.41%
Run 1: Report of FillP-Sheep — Data Link

[Graph showing throughput and packet loss over time for different flows]

Flow 1 ingress (mean 52.94 Mbit/s)  Flow 1 egress (mean 52.92 Mbit/s)
Flow 2 ingress (mean 41.43 Mbit/s)  Flow 2 egress (mean 41.33 Mbit/s)
Flow 3 ingress (mean 42.65 Mbit/s)  Flow 3 egress (mean 42.53 Mbit/s)
Run 2: Statistics of FillP-Sheep

Start at: 2019-07-12 16:33:41
End at: 2019-07-12 16:34:11
Local clock offset: 3.972 ms
Remote clock offset: -2.54 ms

# Below is generated by plot.py at 2019-07-12 18:32:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.67 Mbit/s
95th percentile per-packet one-way delay: 59.522 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 57.74 Mbit/s
95th percentile per-packet one-way delay: 57.891 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 39.87 Mbit/s
95th percentile per-packet one-way delay: 59.794 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 31.13 Mbit/s
95th percentile per-packet one-way delay: 65.554 ms
Loss rate: 0.41%
Run 2: Report of FillP-Sheep — Data Link

![Graph showing throughput and packet loss over time for different flows.]

1. Flow 1 ingress (mean 57.79 Mbit/s)
2. Flow 2 ingress (mean 39.96 Mbit/s)
3. Flow 3 ingress (mean 31.18 Mbit/s)
4. Flow 1 egress (mean 57.74 Mbit/s)
5. Flow 2 egress (mean 39.87 Mbit/s)
6. Flow 3 egress (mean 31.13 Mbit/s)
Run 3: Statistics of FillP-Sheep

Start at: 2019-07-12 17:03:31
End at: 2019-07-12 17:04:02
Local clock offset: 2.29 ms
Remote clock offset: -2.678 ms

# Below is generated by plot.py at 2019-07-12 18:32:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.45 Mbit/s
  95th percentile per-packet one-way delay: 56.814 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 55.63 Mbit/s
  95th percentile per-packet one-way delay: 51.264 ms
  Loss rate: 0.09%
-- Flow 2:
  Average throughput: 42.49 Mbit/s
  95th percentile per-packet one-way delay: 56.260 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 31.75 Mbit/s
  95th percentile per-packet one-way delay: 80.981 ms
  Loss rate: 0.14%
Run 3: Report of FillP-Sheep — Data Link

---

**Throughput (Mbps)**

- Flow 1 ingress (mean 55.64 Mbps)
- Flow 1 egress (mean 55.63 Mbps)
- Flow 2 ingress (mean 42.50 Mbps)
- Flow 2 egress (mean 42.49 Mbps)
- Flow 3 ingress (mean 31.72 Mbps)
- Flow 3 egress (mean 31.75 Mbps)

**Per-packet one way delay (ms)**

- Flow 1 (95th percentile 51.26 ms)
- Flow 2 (95th percentile 56.26 ms)
- Flow 3 (95th percentile 80.98 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2019-07-12 17:32:54
End at: 2019-07-12 17:33:24
Local clock offset: 2.575 ms
Remote clock offset: -1.905 ms

# Below is generated by plot.py at 2019-07-12 18:32:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.68 Mbit/s
95th percentile per-packet one-way delay: 56.495 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 56.96 Mbit/s
95th percentile per-packet one-way delay: 49.398 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 39.45 Mbit/s
95th percentile per-packet one-way delay: 59.041 ms
Loss rate: 0.26%
-- Flow 3:
Average throughput: 31.55 Mbit/s
95th percentile per-packet one-way delay: 92.412 ms
Loss rate: 0.41%
Run 4: Report of FillP-Sheep — Data Link

![Graph showing throughput and per-packet round-trip delay over time for different flows.]

- Flow 1 ingress (mean 56.98 Mbit/s)
- Flow 1 egress (mean 56.96 Mbit/s)
- Flow 2 ingress (mean 39.51 Mbit/s)
- Flow 2 egress (mean 39.45 Mbit/s)
- Flow 3 ingress (mean 31.64 Mbit/s)
- Flow 3 egress (mean 31.55 Mbit/s)

- Flow 1 (95th percentile 49.40 ms)
- Flow 2 (95th percentile 59.04 ms)
- Flow 3 (95th percentile 92.41 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2019-07-12 18:02:14
End at: 2019-07-12 18:02:44
Local clock offset: 5.468 ms
Remote clock offset: -3.069 ms

# Below is generated by plot.py at 2019-07-12 18:32:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.63 Mbit/s
95th percentile per-packet one-way delay: 56.837 ms
Loss rate: 0.19%
-- Flow 1:
Average throughput: 55.12 Mbit/s
95th percentile per-packet one-way delay: 54.095 ms
Loss rate: 0.15%
-- Flow 2:
Average throughput: 38.72 Mbit/s
95th percentile per-packet one-way delay: 67.158 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 41.38 Mbit/s
95th percentile per-packet one-way delay: 50.230 ms
Loss rate: 0.37%
Run 1: Statistics of Indigo

Start at: 2019-07-12 16:00:22
End at: 2019-07-12 16:00:52
Local clock offset: 8.006 ms
Remote clock offset: -0.981 ms

# Below is generated by plot.py at 2019-07-12 18:32:57
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.88 Mbit/s
  95th percentile per-packet one-way delay: 27.927 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 56.86 Mbit/s
  95th percentile per-packet one-way delay: 29.033 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 48.34 Mbit/s
  95th percentile per-packet one-way delay: 26.052 ms
  Loss rate: 0.15%
-- Flow 3:
  Average throughput: 24.14 Mbit/s
  95th percentile per-packet one-way delay: 28.009 ms
  Loss rate: 0.32%
Run 1: Report of Indigo — Data Link

![Graph 1: Throughput (Mbps)](image1)

- Flow 1 ingress (mean 56.84 Mbps)
- Flow 1 egress (mean 56.86 Mbps)
- Flow 2 ingress (mean 48.35 Mbps)
- Flow 2 egress (mean 48.34 Mbps)
- Flow 3 ingress (mean 24.15 Mbps)
- Flow 3 egress (mean 24.14 Mbps)

![Graph 2: Per-packet one-way delay (ms)](image2)

- Flow 1 (95th percentile 29.03 ms)
- Flow 2 (95th percentile 26.05 ms)
- Flow 3 (95th percentile 28.01 ms)

56
Run 2: Statistics of Indigo

Start at: 2019-07-12 16:29:59
End at: 2019-07-12 16:30:29
Local clock offset: 3.765 ms
Remote clock offset: -3.015 ms

# Below is generated by plot.py at 2019-07-12 18:32:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.86 Mbit/s
95th percentile per-packet one-way delay: 31.764 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 56.95 Mbit/s
95th percentile per-packet one-way delay: 31.838 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 36.41 Mbit/s
95th percentile per-packet one-way delay: 30.748 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 47.89 Mbit/s
95th percentile per-packet one-way delay: 28.858 ms
Loss rate: 0.32%
Run 2: Report of Indigo — Data Link

![Graphs showing throughput and delay over time for different flows.]

- Flow 1 ingress (mean 56.98 Mbit/s)
- Flow 1 egress (mean 56.95 Mbit/s)
- Flow 2 ingress (mean 36.40 Mbit/s)
- Flow 2 egress (mean 36.41 Mbit/s)
- Flow 3 ingress (mean 47.93 Mbit/s)
- Flow 3 egress (mean 47.89 Mbit/s)

![Graph showing per-packet one-way delay over time for different flows.]

- Flow 1 (95th percentile 31.84 ms)
- Flow 2 (95th percentile 30.75 ms)
- Flow 3 (95th percentile 28.86 ms)
Run 3: Statistics of Indigo

Start at: 2019-07-12 16:59:42
End at: 2019-07-12 17:00:12
Local clock offset: 3.59 ms
Remote clock offset: -3.548 ms

# Below is generated by plot.py at 2019-07-12 18:33:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.80 Mbit/s
95th percentile per-packet one-way delay: 32.681 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 56.92 Mbit/s
95th percentile per-packet one-way delay: 31.660 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 36.46 Mbit/s
95th percentile per-packet one-way delay: 33.379 ms
Loss rate: 0.72%
-- Flow 3:
Average throughput: 47.72 Mbit/s
95th percentile per-packet one-way delay: 28.787 ms
Loss rate: 0.31%
Run 3: Report of Indigo — Data Link

![Graph 1: Throughput (Mbps)](image1)

![Graph 2: Per-packet one-way delay (ms)](image2)
Run 4: Statistics of Indigo

Start at: 2019-07-12 17:29:16
End at: 2019-07-12 17:29:46
Local clock offset: 2.692 ms
Remote clock offset: -3.465 ms

# Below is generated by plot.py at 2019-07-12 18:33:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.37 Mbit/s
95th percentile per-packet one-way delay: 27.377 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 64.42 Mbit/s
95th percentile per-packet one-way delay: 25.979 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 36.23 Mbit/s
95th percentile per-packet one-way delay: 27.523 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 24.11 Mbit/s
95th percentile per-packet one-way delay: 31.971 ms
Loss rate: 0.34%
Run 4: Report of Indigo — Data Link

![Graph showing throughput and per-packet one way delay over time for different flows.]

Legend:
- Flow 1 ingress (mean 64.41 Mbit/s)
- Flow 1 egress (mean 64.42 Mbit/s)
- Flow 2 ingress (mean 36.23 Mbit/s)
- Flow 2 egress (mean 36.23 Mbit/s)
- Flow 3 ingress (mean 24.10 Mbit/s)
- Flow 3 egress (mean 24.11 Mbit/s)
Run 5: Statistics of Indigo

Start at: 2019-07-12 17:58:35
End at: 2019-07-12 17:59:05
Local clock offset: 2.663 ms
Remote clock offset: -3.107 ms

# Below is generated by plot.py at 2019-07-12 18:33:37
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 96.84 Mbit/s
  95th percentile per-packet one-way delay: 25.314 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 56.87 Mbit/s
  95th percentile per-packet one-way delay: 25.207 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 48.29 Mbit/s
  95th percentile per-packet one-way delay: 25.356 ms
  Loss rate: 0.15%
-- Flow 3:
  Average throughput: 24.09 Mbit/s
  95th percentile per-packet one-way delay: 25.198 ms
  Loss rate: 0.33%
Run 5: Report of Indigo — Data Link

[Graph showing throughput and delay over time for flows 1, 2, and 3, with metrics for mean ingress and egress rates.]
Run 1: Statistics of Indigo-MusesC3

Start at: 2019-07-12 16:19:10
End at: 2019-07-12 16:19:40
Local clock offset: 3.581 ms
Remote clock offset: -2.166 ms

# Below is generated by plot.py at 2019-07-12 18:33:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 80.62 Mbit/s
95th percentile per-packet one-way delay: 27.945 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 53.73 Mbit/s
95th percentile per-packet one-way delay: 29.231 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 34.46 Mbit/s
95th percentile per-packet one-way delay: 26.394 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 16.96 Mbit/s
95th percentile per-packet one-way delay: 25.642 ms
Loss rate: 0.40%
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-07-12 16:48:44
End at: 2019-07-12 16:49:14
Local clock offset: 2.885 ms
Remote clock offset: -1.113 ms

# Below is generated by plot.py at 2019-07-12 18:33:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 84.19 Mbit/s
  95th percentile per-packet one-way delay: 26.359 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 58.91 Mbit/s
  95th percentile per-packet one-way delay: 26.789 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 32.92 Mbit/s
  95th percentile per-packet one-way delay: 25.690 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 15.93 Mbit/s
  95th percentile per-packet one-way delay: 24.987 ms
  Loss rate: 0.48%
Run 2: Report of Indigo-MusesC3 — Data Link

![Graph showing throughput and per-packet end-to-end delay over time for different flows.]

Legend:
- **Flow 1 ingress (mean 58.86 Mbit/s)**
- **Flow 1 egress (mean 58.91 Mbit/s)**
- **Flow 2 ingress (mean 32.90 Mbit/s)**
- **Flow 2 egress (mean 32.92 Mbit/s)**
- **Flow 3 ingress (mean 15.97 Mbit/s)**
- **Flow 3 egress (mean 15.93 Mbit/s)**

- **Flow 1 (95th percentile 26.79 ms)**
- **Flow 2 (95th percentile 25.69 ms)**
- **Flow 3 (95th percentile 24.99 ms)**
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-07-12 17:18:30
End at: 2019-07-12 17:19:00
Local clock offset: 3.067 ms
Remote clock offset: -1.649 ms

# Below is generated by plot.py at 2019-07-12 18:33:44
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 75.96 Mbit/s
  95th percentile per-packet one-way delay: 25.370 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 42.19 Mbit/s
  95th percentile per-packet one-way delay: 23.864 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 43.50 Mbit/s
  95th percentile per-packet one-way delay: 26.435 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 22.10 Mbit/s
  95th percentile per-packet one-way delay: 27.177 ms
  Loss rate: 0.55%
Run 3: Report of Indigo-MusesC3 — Data Link

![Graph 1](image1)

**Throughput (Mbps)**

**Time (s)**

*Legend:*
- Flow 1 ingress (mean 42.16 Mbps)
- Flow 1 egress (mean 42.19 Mbps)
- Flow 2 ingress (mean 43.30 Mbps)
- Flow 2 egress (mean 43.50 Mbps)
- Flow 3 ingress (mean 22.13 Mbps)
- Flow 3 egress (mean 22.10 Mbps)

![Graph 2](image2)

**Per packet one way delay (ms)**

**Time (s)**

*Legend:*
- Flow 1 (95th percentile 23.86 ms)
- Flow 2 (95th percentile 26.43 ms)
- Flow 3 (95th percentile 27.18 ms)
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-07-12 17:47:46
End at: 2019-07-12 17:48:16
Local clock offset: 2.849 ms
Remote clock offset: -1.906 ms

# Below is generated by plot.py at 2019-07-12 18:33:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.92 Mbit/s
95th percentile per-packet one-way delay: 26.406 ms
Loss rate: 0.08%
-- Flow 1:
Average throughput: 56.12 Mbit/s
95th percentile per-packet one-way delay: 26.801 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 35.41 Mbit/s
95th percentile per-packet one-way delay: 25.763 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 19.14 Mbit/s
95th percentile per-packet one-way delay: 26.974 ms
Loss rate: 0.64%
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-07-12 18:17:08
End at: 2019-07-12 18:17:38
Local clock offset: 8.592 ms
Remote clock offset: -4.517 ms

# Below is generated by plot.py at 2019-07-12 18:34:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.13 Mbit/s
95th percentile per-packet one-way delay: 28.136 ms
Loss rate: 0.09%
-- Flow 1:
Average throughput: 54.35 Mbit/s
95th percentile per-packet one-way delay: 28.308 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 32.37 Mbit/s
95th percentile per-packet one-way delay: 27.602 ms
Loss rate: 0.03%
-- Flow 3:
Average throughput: 22.56 Mbit/s
95th percentile per-packet one-way delay: 29.191 ms
Loss rate: 0.50%
Run 5: Report of Indigo-MusesC3 — Data Link

![Graph showing throughput and packet delay over time for different flows.]

- Flow 1 ingress (mean 54.31 Mbit/s)
- Flow 1 egress (mean 54.35 Mbit/s)
- Flow 2 ingress (mean 32.32 Mbit/s)
- Flow 2 egress (mean 32.37 Mbit/s)
- Flow 3 ingress (mean 22.59 Mbit/s)
- Flow 3 egress (mean 22.56 Mbit/s)

![Graph showing packet delay over time for different flows.]

- Flow 1 (95th percentile 28.31 ms)
- Flow 2 (95th percentile 27.60 ms)
- Flow 3 (95th percentile 29.19 ms)
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-07-12 15:57:58
End at: 2019-07-12 15:58:28
Local clock offset: 7.856 ms
Remote clock offset: -0.159 ms

# Below is generated by plot.py at 2019-07-12 18:34:29
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.53 Mbit/s
95th percentile per-packet one-way delay: 74.947 ms
Loss rate: 1.93%
-- Flow 1:
Average throughput: 56.83 Mbit/s
95th percentile per-packet one-way delay: 73.072 ms
Loss rate: 1.40%
-- Flow 2:
Average throughput: 40.62 Mbit/s
95th percentile per-packet one-way delay: 71.167 ms
Loss rate: 2.29%
-- Flow 3:
Average throughput: 30.48 Mbit/s
95th percentile per-packet one-way delay: 80.528 ms
Loss rate: 4.43%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

Start at: 2019-07-12 16:27:35
End at: 2019-07-12 16:28:05
Local clock offset: 1.07 ms
Remote clock offset: -2.11 ms

# Below is generated by plot.py at 2019-07-12 18:34:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.93 Mbit/s
95th percentile per-packet one-way delay: 51.836 ms
Loss rate: 0.65%
-- Flow 1:
Average throughput: 56.80 Mbit/s
95th percentile per-packet one-way delay: 44.981 ms
Loss rate: 0.39%
-- Flow 2:
Average throughput: 36.47 Mbit/s
95th percentile per-packet one-way delay: 62.891 ms
Loss rate: 1.28%
-- Flow 3:
Average throughput: 43.87 Mbit/s
95th percentile per-packet one-way delay: 47.148 ms
Loss rate: 0.67%
Run 2: Report of Indigo-MusesC5 — Data Link
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-07-12 16:57:09
End at: 2019-07-12 16:57:39
Local clock offset: 3.129 ms
Remote clock offset: -1.298 ms

# Below is generated by plot.py at 2019-07-12 18:34:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.19 Mbit/s
95th percentile per-packet one-way delay: 68.368 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 53.31 Mbit/s
95th percentile per-packet one-way delay: 46.658 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 45.65 Mbit/s
95th percentile per-packet one-way delay: 75.662 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 37.08 Mbit/s
95th percentile per-packet one-way delay: 70.311 ms
Loss rate: 2.73%
Run 3: Report of Indigo-MusesC5 — Data Link
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-07-12 17:26:50
End at: 2019-07-12 17:27:20
Local clock offset: 2.342 ms
Remote clock offset: -3.207 ms

# Below is generated by plot.py at 2019-07-12 18:34:43
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 91.60 Mbit/s
  95th percentile per-packet one-way delay: 85.403 ms
  Loss rate: 1.44%
-- Flow 1:
  Average throughput: 57.05 Mbit/s
  95th percentile per-packet one-way delay: 79.427 ms
  Loss rate: 1.01%
-- Flow 2:
  Average throughput: 35.56 Mbit/s
  95th percentile per-packet one-way delay: 92.517 ms
  Loss rate: 2.80%
-- Flow 3:
  Average throughput: 44.49 Mbit/s
  95th percentile per-packet one-way delay: 48.369 ms
  Loss rate: 0.89%
Run 4: Report of Indigo-MusesC5 — Data Link

![Graph showing network performance metrics over time]

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 57.60 Mbps)
  - Flow 2 ingress (mean 36.56 Mbps)
  - Flow 3 ingress (mean 44.81 Mbps)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 79.43 ms)
  - Flow 2 (95th percentile 92.52 ms)
  - Flow 3 (95th percentile 48.37 ms)
Run 5: Statistics of Indigo-MusesC5

Start at: 2019-07-12 17:56:07
End at: 2019-07-12 17:56:37
Local clock offset: 3.024 ms
Remote clock offset: -4.802 ms

# Below is generated by plot.py at 2019-07-12 18:34:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 91.02 Mbit/s
  95th percentile per-packet one-way delay: 66.178 ms
  Loss rate: 0.67%
-- Flow 1:
  Average throughput: 61.04 Mbit/s
  95th percentile per-packet one-way delay: 67.984 ms
  Loss rate: 0.71%
-- Flow 2:
  Average throughput: 27.92 Mbit/s
  95th percentile per-packet one-way delay: 74.249 ms
  Loss rate: 0.59%
-- Flow 3:
  Average throughput: 45.41 Mbit/s
  95th percentile per-packet one-way delay: 48.022 ms
  Loss rate: 0.63%
Run 5: Report of Indigo-MusesC5 — Data Link

![Graph 1: Throughput (Mb/s)](image1)

![Graph 2: Per-packet one-way delay (ms)](image2)
Run 1: Statistics of Indigo-MusesD

Start at: 2019-07-12 15:59:09
End at: 2019-07-12 15:59:39
Local clock offset: 8.053 ms
Remote clock offset: -1.323 ms

# Below is generated by plot.py at 2019-07-12 18:34:51
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.46 Mbit/s
95th percentile per-packet one-way delay: 28.853 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 48.53 Mbit/s
95th percentile per-packet one-way delay: 26.437 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 42.70 Mbit/s
95th percentile per-packet one-way delay: 29.645 ms
Loss rate: 0.01%
-- Flow 3:
Average throughput: 28.41 Mbit/s
95th percentile per-packet one-way delay: 34.376 ms
Loss rate: 0.79%
Run 1: Report of Indigo-MusesD — Data Link

![Graph 1: Throughput vs Time](image1)

- Flow 1 ingress (mean 48.52 Mbit/s)
- Flow 1 egress (mean 48.53 Mbit/s)
- Flow 2 ingress (mean 42.65 Mbit/s)
- Flow 2 egress (mean 42.70 Mbit/s)
- Flow 3 ingress (mean 26.60 Mbit/s)
- Flow 3 egress (mean 28.41 Mbit/s)

![Graph 2: Packet Delay vs Time](image2)

- Flow 1 (95th percentile 26.44 ms)
- Flow 2 (95th percentile 29.64 ms)
- Flow 3 (95th percentile 34.38 ms)
Run 2: Statistics of Indigo-MusesD

Start at: 2019-07-12 16:28:47
End at: 2019-07-12 16:29:17
Local clock offset: 2.336 ms
Remote clock offset: -0.685 ms

# Below is generated by plot.py at 2019-07-12 18:34:52
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 82.46 Mbit/s
  95th percentile per-packet one-way delay: 26.145 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 49.50 Mbit/s
  95th percentile per-packet one-way delay: 25.276 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 40.30 Mbit/s
  95th percentile per-packet one-way delay: 25.900 ms
  Loss rate: 0.12%
-- Flow 3:
  Average throughput: 27.40 Mbit/s
  95th percentile per-packet one-way delay: 30.039 ms
  Loss rate: 0.38%
Run 2: Report of Indigo-MusesD — Data Link

![Graph of throughput and per-packet round trip time for different flows over time.](image)

Legend for throughput graph:
- Flow 1 ingress (mean 49.50 Mbit/s)
- Flow 1 egress (mean 49.50 Mbit/s)
- Flow 2 ingress (mean 40.28 Mbit/s)
- Flow 2 egress (mean 40.30 Mbit/s)
- Flow 3 ingress (mean 27.45 Mbit/s)
- Flow 3 egress (mean 27.40 Mbit/s)

Legend for per-packet round trip time graph:
- Flow 1 (95th percentile 25.28 ms)
- Flow 2 (95th percentile 25.90 ms)
- Flow 3 (95th percentile 30.04 ms)
Run 3: Statistics of Indigo-MusesD

Start at: 2019-07-12 16:58:25
End at: 2019-07-12 16:58:55
Local clock offset: 3.611 ms
Remote clock offset: -1.232 ms

# Below is generated by plot.py at 2019-07-12 18:35:15
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.65 Mbit/s
95th percentile per-packet one-way delay: 117.403 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 73.37 Mbit/s
95th percentile per-packet one-way delay: 125.105 ms
Loss rate: 1.12%
-- Flow 2:
Average throughput: 21.31 Mbit/s
95th percentile per-packet one-way delay: 31.315 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 24.72 Mbit/s
95th percentile per-packet one-way delay: 48.611 ms
Loss rate: 0.37%
Run 3: Report of Indigo-MusesD — Data Link

![Graphs showing network performance metrics](image-url)

- **Throughput (Mbps)**
  - Flow 1 ingress (mean 74.13 Mbps)
  - Flow 1 egress (mean 73.37 Mbps)
  - Flow 2 ingress (mean 21.31 Mbps)
  - Flow 2 egress (mean 21.31 Mbps)
  - Flow 3 ingress (mean 24.73 Mbps)
  - Flow 3 egress (mean 24.72 Mbps)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 125.11 ms)
  - Flow 2 (95th percentile 31.32 ms)
  - Flow 3 (95th percentile 48.61 ms)
Run 4: Statistics of Indigo-MusesD

Start at: 2019-07-12 17:28:02
End at: 2019-07-12 17:28:33
Local clock offset: 2.444 ms
Remote clock offset: -2.577 ms

# Below is generated by plot.py at 2019-07-12 18:35:31
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 83.76 Mbit/s
  95th percentile per-packet one-way delay: 27.768 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 50.29 Mbit/s
  95th percentile per-packet one-way delay: 25.376 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 42.70 Mbit/s
  95th percentile per-packet one-way delay: 28.427 ms
  Loss rate: 0.06%
-- Flow 3:
  Average throughput: 23.81 Mbit/s
  95th percentile per-packet one-way delay: 37.705 ms
  Loss rate: 0.78%
Run 4: Report of Indigo-MusesD — Data Link
Run 5: Statistics of Indigo-MusesD

Start at: 2019-07-12 17:57:20
End at: 2019-07-12 17:57:50
Local clock offset: 2.61 ms
Remote clock offset: -4.218 ms

# Below is generated by plot.py at 2019-07-12 18:35:44
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.16 Mbit/s
95th percentile per-packet one-way delay: 88.509 ms
Loss rate: 0.61%
-- Flow 1:
Average throughput: 50.15 Mbit/s
95th percentile per-packet one-way delay: 37.702 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 51.33 Mbit/s
95th percentile per-packet one-way delay: 126.899 ms
Loss rate: 1.41%
-- Flow 3:
Average throughput: 26.17 Mbit/s
95th percentile per-packet one-way delay: 33.762 ms
Loss rate: 0.40%
Run 5: Report of Indigo-MusesD — Data Link

---

**Throughput vs. Time**

- **Flow 1 ingress** (mean 50.15 Mbit/s)
- **Flow 1 egress** (mean 50.15 Mbit/s)
- **Flow 2 ingress** (mean 51.99 Mbit/s)
- **Flow 2 egress** (mean 51.33 Mbit/s)
- **Flow 3 ingress** (mean 26.23 Mbit/s)
- **Flow 3 egress** (mean 26.17 Mbit/s)

---

**Per-packet one-way delay vs. Time**

- **Flow 1** (95th percentile 37.70 ms)
- **Flow 2** (95th percentile 126.90 ms)
- **Flow 3** (95th percentile 33.76 ms)
Run 1: Statistics of Indigo-MusesT

Start at: 2019-07-12 16:20:21
End at: 2019-07-12 16:20:51
Local clock offset: 3.818 ms
Remote clock offset: -0.59 ms

# Below is generated by plot.py at 2019-07-12 18:35:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.47 Mbit/s
95th percentile per-packet one-way delay: 92.685 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 61.37 Mbit/s
95th percentile per-packet one-way delay: 86.536 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 40.06 Mbit/s
95th percentile per-packet one-way delay: 103.274 ms
Loss rate: 1.15%
-- Flow 3:
Average throughput: 28.15 Mbit/s
95th percentile per-packet one-way delay: 75.269 ms
Loss rate: 1.95%
Run 1: Report of Indigo-MusesT — Data Link

Throughput (Mbps) vs. Time (s)

- Flow 1 ingress (mean 61.74 Mbps)
- Flow 1 egress (mean 61.37 Mbps)
- Flow 2 ingress (mean 40.47 Mbps)
- Flow 2 egress (mean 40.06 Mbps)
- Flow 3 ingress (mean 28.75 Mbps)
- Flow 3 egress (mean 28.15 Mbps)

Per-packet one-way delay (ms)

- Flow 1 (95th percentile 66.54 ms)
- Flow 2 (95th percentile 103.27 ms)
- Flow 3 (95th percentile 75.27 ms)
Run 2: Statistics of Indigo-MuseST

Start at: 2019-07-12 16:49:56
End at: 2019-07-12 16:50:26
Local clock offset: 2.984 ms
Remote clock offset: -1.898 ms

# Below is generated by plot.py at 2019-07-12 18:35:52
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.24 Mbit/s
95th percentile per-packet one-way delay: 81.305 ms
Loss rate: 0.86%
-- Flow 1:
Average throughput: 61.42 Mbit/s
95th percentile per-packet one-way delay: 67.633 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 40.33 Mbit/s
95th percentile per-packet one-way delay: 97.638 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 26.74 Mbit/s
95th percentile per-packet one-way delay: 101.112 ms
Loss rate: 2.38%
Run 2: Report of Indigo-MusesT — Data Link

![Graph showing throughput and delay over time for different flows.](image)

**Throughput (Mbps):**
- Flow 1 ingress (mean 61.75 Mbps)
- Flow 1 egress (mean 61.42 Mbps)
- Flow 2 ingress (mean 40.73 Mbps)
- Flow 2 egress (mean 40.33 Mbps)
- Flow 3 ingress (mean 27.34 Mbps)
- Flow 3 egress (mean 26.74 Mbps)

**Delay (ms):**
- Flow 1 (95th percentile 67.63 ms)
- Flow 2 (95th percentile 97.64 ms)
- Flow 3 (95th percentile 101.11 ms)
Run 3: Statistics of Indigo-MusesT

Start at: 2019-07-12 17:19:41
End at: 2019-07-12 17:20:11
Local clock offset: 2.569 ms
Remote clock offset: -1.444 ms

# Below is generated by plot.py at 2019-07-12 18:35:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.27 Mbit/s
95th percentile per-packet one-way delay: 91.412 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 62.06 Mbit/s
95th percentile per-packet one-way delay: 82.309 ms
Loss rate: 0.42%
-- Flow 2:
Average throughput: 38.49 Mbit/s
95th percentile per-packet one-way delay: 99.617 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 28.74 Mbit/s
95th percentile per-packet one-way delay: 95.236 ms
Loss rate: 3.71%
Run 3: Report of Indigo-MusesT — Data Link
Run 4: Statistics of Indigo-MusesT

Start at: 2019-07-12 17:48:57
End at: 2019-07-12 17:49:27
Local clock offset: 3.078 ms
Remote clock offset: -1.534 ms

# Below is generated by plot.py at 2019-07-12 18:36:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.62 Mbit/s
95th percentile per-packet one-way delay: 37.215 ms
Loss rate: 0.30%
-- Flow 1:
Average throughput: 62.39 Mbit/s
95th percentile per-packet one-way delay: 37.780 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 42.71 Mbit/s
95th percentile per-packet one-way delay: 36.561 ms
Loss rate: 0.38%
-- Flow 3:
Average throughput: 14.99 Mbit/s
95th percentile per-packet one-way delay: 30.149 ms
Loss rate: 1.08%
Run 4: Report of Indigo-MusesT — Data Link

![Graph](image1.png)

![Graph](image2.png)
Run 5: Statistics of Indigo-MusesT

Start at: 2019-07-12 18:18:23
End at: 2019-07-12 18:18:53
Local clock offset: 8.432 ms
Remote clock offset: -5.097 ms

# Below is generated by plot.py at 2019-07-12 18:36:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.25 Mbit/s
95th percentile per-packet one-way delay: 75.379 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 62.13 Mbit/s
95th percentile per-packet one-way delay: 39.500 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 39.18 Mbit/s
95th percentile per-packet one-way delay: 95.457 ms
Loss rate: 1.48%
-- Flow 3:
Average throughput: 26.07 Mbit/s
95th percentile per-packet one-way delay: 120.383 ms
Loss rate: 3.78%
Run 5: Report of Indigo-MusesT — Data Link

Throughput (Mbps)

Time (s)

0 5 10 15 20 25 30

Flow 1 ingress (mean 62.21 Mbit/s)
Flow 1 egress (mean 62.13 Mbit/s)
Flow 2 ingress (mean 39.83 Mbit/s)
Flow 2 egress (mean 39.18 Mbit/s)
Flow 3 ingress (mean 26.99 Mbit/s)
Flow 3 egress (mean 26.07 Mbit/s)

Per-packet one way delay (ms)

0 20 40 60 80 100 120 140 160

Flow 1 (95th percentile 39.50 ms)
Flow 2 (95th percentile 95.46 ms)
Flow 3 (95th percentile 120.38 ms)
Run 1: Statistics of LEDBAT

Start at: 2019-07-12 16:07:47
End at: 2019-07-12 16:08:17
Local clock offset: 5.071 ms
Remote clock offset: -2.045 ms

# Below is generated by plot.py at 2019-07-12 18:36:25
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.54 Mbit/s
95th percentile per-packet one-way delay: 32.284 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 58.53 Mbit/s
95th percentile per-packet one-way delay: 31.270 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 34.35 Mbit/s
95th percentile per-packet one-way delay: 34.078 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 24.51 Mbit/s
95th percentile per-packet one-way delay: 37.430 ms
Loss rate: 0.45%
Run 1: Report of LEDBAT — Data Link

![Graph showing network performance metrics over time](image-url)

- **Throughput (Mbps)**: Line graph showing throughput in Mbps over time.
- **Per-packet one-way delay (ms)**: Bar graph showing per-packet one-way delay in milliseconds over time.

Legend:
- **Flow 1 ingress (mean 58.54 Mbps)**
- **Flow 1 egress (mean 58.53 Mbps)**
- **Flow 2 ingress (mean 34.36 Mbps)**
- **Flow 2 egress (mean 34.35 Mbps)**
- **Flow 3 ingress (mean 24.56 Mbps)**
- **Flow 3 egress (mean 24.51 Mbps)**
Run 2: Statistics of LEDBAT

Start at: 2019-07-12 16:37:21
End at: 2019-07-12 16:37:51
Local clock offset: 4.178 ms
Remote clock offset: -2.596 ms

# Below is generated by plot.py at 2019-07-12 18:36:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.75 Mbit/s
95th percentile per-packet one-way delay: 32.959 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 49.43 Mbit/s
95th percentile per-packet one-way delay: 31.922 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 37.25 Mbit/s
95th percentile per-packet one-way delay: 34.959 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 40.71 Mbit/s
95th percentile per-packet one-way delay: 31.583 ms
Loss rate: 0.41%
Run 2: Report of LEDBAT — Data Link

![Graph of throughput and packet delivery delay vs time for different data flows.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 49.42 Mbit/s)
  - Flow 1 egress (mean 49.43 Mbit/s)
  - Flow 2 ingress (mean 37.25 Mbit/s)
  - Flow 2 egress (mean 37.25 Mbit/s)
  - Flow 3 ingress (mean 40.77 Mbit/s)
  - Flow 3 egress (mean 40.71 Mbit/s)

- **Packet Delivery Delay (ms):**
  - Flow 1 (95th percentile 31.92 ms)
  - Flow 2 (95th percentile 34.96 ms)
  - Flow 3 (95th percentile 31.58 ms)
Run 3: Statistics of LEDBAT

Start at: 2019-07-12 17:07:08
End at: 2019-07-12 17:07:38
Local clock offset: 2.594 ms
Remote clock offset: -1.332 ms

# Below is generated by plot.py at 2019-07-12 18:36:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 87.72 Mbit/s
  95th percentile per-packet one-way delay: 31.203 ms
  Loss rate: 0.15%
-- Flow 1:
  Average throughput: 51.31 Mbit/s
  95th percentile per-packet one-way delay: 30.143 ms
  Loss rate: 0.10%
-- Flow 2:
  Average throughput: 39.15 Mbit/s
  95th percentile per-packet one-way delay: 31.794 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 31.09 Mbit/s
  95th percentile per-packet one-way delay: 33.710 ms
  Loss rate: 0.41%
Run 3: Report of LEDBAT — Data Link
Run 4: Statistics of LEDBAT

Start at: 2019-07-12 17:36:34
End at: 2019-07-12 17:37:04
Local clock offset: 2.244 ms
Remote clock offset: -2.71 ms

# Below is generated by plot.py at 2019-07-12 18:36:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 89.09 Mbit/s
  95th percentile per-packet one-way delay: 31.085 ms
  Loss rate: 0.12%
-- Flow 1:
  Average throughput: 53.56 Mbit/s
  95th percentile per-packet one-way delay: 30.598 ms
  Loss rate: 0.08%
-- Flow 2:
  Average throughput: 38.25 Mbit/s
  95th percentile per-packet one-way delay: 31.444 ms
  Loss rate: 0.15%
-- Flow 3:
  Average throughput: 30.38 Mbit/s
  95th percentile per-packet one-way delay: 32.373 ms
  Loss rate: 0.26%
Run 4: Report of LEDBAT — Data Link
Run 5: Statistics of LEDBAT

Start at: 2019-07-12 18:05:51
End at: 2019-07-12 18:06:21
Local clock offset: 5.947 ms
Remote clock offset: -4.784 ms

# Below is generated by plot.py at 2019-07-12 18:37:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 87.55 Mbit/s
95th percentile per-packet one-way delay: 32.451 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 52.96 Mbit/s
95th percentile per-packet one-way delay: 32.131 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 37.36 Mbit/s
95th percentile per-packet one-way delay: 32.393 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 29.32 Mbit/s
95th percentile per-packet one-way delay: 33.379 ms
Loss rate: 0.37%
Run 5: Report of LEDBAT — Data Link
Run 1: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 16:09:01
End at: 2019-07-12 16:09:31
Local clock offset: 5.035 ms
Remote clock offset: -0.954 ms

# Below is generated by plot.py at 2019-07-12 18:37:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.59 Mbit/s
95th percentile per-packet one-way delay: 1100.489 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 42.88 Mbit/s
95th percentile per-packet one-way delay: 873.532 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 38.04 Mbit/s
95th percentile per-packet one-way delay: 1064.647 ms
Loss rate: 2.77%
-- Flow 3:
Average throughput: 54.27 Mbit/s
95th percentile per-packet one-way delay: 1222.912 ms
Loss rate: 2.56%
Run 1: Report of Muses DecisionTree — Data Link

![Graph 1: Throughput Over Time](image1)

- **Flow 1 ingress (mean 43.11 Mbit/s)**
- **Flow 1 egress (mean 42.88 Mbit/s)**
- **Flow 2 ingress (mean 39.06 Mbit/s)**
- **Flow 2 egress (mean 38.04 Mbit/s)**
- **Flow 3 ingress (mean 55.51 Mbit/s)**
- **Flow 3 egress (mean 54.27 Mbit/s)**

![Graph 2: Per-packet one-way delay](image2)

- **Flow 1 (95th percentile 873.53 ms)**
- **Flow 2 (95th percentile 1064.65 ms)**
- **Flow 3 (95th percentile 1222.91 ms)**
Run 2: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 16:38:34
End at: 2019-07-12 16:39:04
Local clock offset: 4.148 ms
Remote clock offset: -2.249 ms

# Below is generated by plot.py at 2019-07-12 18:37:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 82.87 Mbit/s
95th percentile per-packet one-way delay: 1068.504 ms
Loss rate: 1.18%
-- Flow 1:
Average throughput: 36.55 Mbit/s
95th percentile per-packet one-way delay: 875.431 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 42.20 Mbit/s
95th percentile per-packet one-way delay: 885.458 ms
Loss rate: 0.94%
-- Flow 3:
Average throughput: 57.43 Mbit/s
95th percentile per-packet one-way delay: 1116.270 ms
Loss rate: 2.54%
Run 2: Report of Muses DecisionTree — Data Link

![Graph 1: Throughput vs Time](image1)

- **Flow 1 ingress** (mean 36.75 Mbit/s)
- **Flow 1 egress** (mean 36.55 Mbit/s)
- **Flow 2 ingress** (mean 42.56 Mbit/s)
- **Flow 2 egress** (mean 42.20 Mbit/s)
- **Flow 3 ingress** (mean 56.79 Mbit/s)
- **Flow 3 egress** (mean 57.43 Mbit/s)

![Graph 2: Delay vs Time](image2)

- **Flow 1** (95th percentile 875.43 ms)
- **Flow 2** (95th percentile 885.46 ms)
- **Flow 3** (95th percentile 1116.27 ms)

118
Run 3: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 17:08:26
End at: 2019-07-12 17:08:56
Local clock offset: 2.452 ms
Remote clock offset: -3.14 ms

# Below is generated by plot.py at 2019-07-12 18:37:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 85.07 Mbit/s
  95th percentile per-packet one-way delay: 1274.960 ms
  Loss rate: 2.02%
-- Flow 1:
  Average throughput: 41.89 Mbit/s
  95th percentile per-packet one-way delay: 850.918 ms
  Loss rate: 1.68%
-- Flow 2:
  Average throughput: 39.51 Mbit/s
  95th percentile per-packet one-way delay: 1123.914 ms
  Loss rate: 1.64%
-- Flow 3:
  Average throughput: 53.04 Mbit/s
  95th percentile per-packet one-way delay: 1362.116 ms
  Loss rate: 3.43%
Run 3: Report of Muses Decision Tree — Data Link

![Graph 1](Image)

Flow 1 ingress (mean 42.56 Mbit/s)
Flow 1 egress (mean 41.89 Mbit/s)
Flow 2 ingress (mean 40.11 Mbit/s)
Flow 2 egress (mean 39.51 Mbit/s)
Flow 3 ingress (mean 54.84 Mbit/s)
Flow 3 egress (mean 53.04 Mbit/s)

![Graph 2](Image)

Flow 1 95th percentile 850.92 ms
Flow 2 95th percentile 1123.91 ms
Flow 3 95th percentile 1362.12 ms
Run 4: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 17:37:50
End at: 2019-07-12 17:38:20
Local clock offset: 3.087 ms
Remote clock offset: -3.677 ms

# Below is generated by plot.py at 2019-07-12 18:37:31
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.56 Mbit/s
95th percentile per-packet one-way delay: 1038.038 ms
Loss rate: 1.54%
-- Flow 1:
Average throughput: 40.50 Mbit/s
95th percentile per-packet one-way delay: 874.355 ms
Loss rate: 0.63%
-- Flow 2:
Average throughput: 37.88 Mbit/s
95th percentile per-packet one-way delay: 1055.228 ms
Loss rate: 2.29%
-- Flow 3:
Average throughput: 56.36 Mbit/s
95th percentile per-packet one-way delay: 1242.495 ms
Loss rate: 2.50%
Run 4: Report of Muses

Decision Tree — Data Link

Graph 1: Throughput vs Time (Mbps)

Graph 2: Per-packet one-way delay (ms)
Run 5: Statistics of Muses\_DecisionTree

Start at: 2019-07-12 18:07:05
End at: 2019-07-12 18:07:35
Local clock offset: 6.221 ms
Remote clock offset: -2.333 ms

# Below is generated by plot.py at 2019-07-12 18:37:47
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 85.42 Mbit/s
  95th percentile per-packet one-way delay: 1242.092 ms
  Loss rate: 1.54%
-- Flow 1:
  Average throughput: 42.35 Mbit/s
  95th percentile per-packet one-way delay: 871.578 ms
  Loss rate: 0.61%
-- Flow 2:
  Average throughput: 39.68 Mbit/s
  95th percentile per-packet one-way delay: 1103.789 ms
  Loss rate: 1.48%
-- Flow 3:
  Average throughput: 52.56 Mbit/s
  95th percentile per-packet one-way delay: 1351.302 ms
  Loss rate: 3.89%
Run 5: Report of Muses_DecisionTree — Data Link
Run 1: Statistics of Muses\_DecisionTreeHO

Start at: 2019-07-12 16:15:33
End at: 2019-07-12 16:16:03
Local clock offset: 4.191 ms
Remote clock offset: -0.989 ms

# Below is generated by plot.py at 2019-07-12 18:37:59
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.93 Mbit/s
95th percentile per-packet one-way delay: 1230.496 ms
Loss rate: 1.70%
-- Flow 1:
Average throughput: 47.10 Mbit/s
95th percentile per-packet one-way delay: 874.116 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 38.49 Mbit/s
95th percentile per-packet one-way delay: 1146.205 ms
Loss rate: 1.78%
-- Flow 3:
Average throughput: 54.17 Mbit/s
95th percentile per-packet one-way delay: 1354.107 ms
Loss rate: 4.49%
Run 1: Report of Muses_DecisionTreeH0 — Data Link
Run 2: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 16:45:06
End at: 2019-07-12 16:45:36
Local clock offset: 3.933 ms
Remote clock offset: -3.119 ms

# Below is generated by plot.py at 2019-07-12 18:38:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.59 Mbit/s
95th percentile per-packet one-way delay: 1455.076 ms
Loss rate: 3.76%
-- Flow 1:
Average throughput: 47.82 Mbit/s
95th percentile per-packet one-way delay: 782.514 ms
Loss rate: 4.36%
-- Flow 2:
Average throughput: 40.37 Mbit/s
95th percentile per-packet one-way delay: 1208.173 ms
Loss rate: 2.00%
-- Flow 3:
Average throughput: 50.54 Mbit/s
95th percentile per-packet one-way delay: 1594.933 ms
Loss rate: 4.78%
Run 2: Report of Muses

Data Link

Throughput vs Time (s)

- Flow 1 ingress (mean 49.95 Mbit/s)
- Flow 1 egress (mean 47.82 Mbit/s)
- Flow 2 ingress (mean 41.14 Mbit/s)
- Flow 2 egress (mean 40.37 Mbit/s)
- Flow 3 ingress (mean 52.94 Mbit/s)
- Flow 3 egress (mean 50.54 Mbit/s)

Per-packet one way delay (ms)

- Flow 1 (95th percentile 782.51 ms)
- Flow 2 (95th percentile 1208.17 ms)
- Flow 3 (95th percentile 1594.93 ms)
Run 3: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 17:14:54
End at: 2019-07-12 17:15:24
Local clock offset: 1.982 ms
Remote clock offset: -3.058 ms

# Below is generated by plot.py at 2019-07-12 18:38:08
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.10 Mbit/s
95th percentile per-packet one-way delay: 1391.527 ms
Loss rate: 1.75%
-- Flow 1:
Average throughput: 46.22 Mbit/s
95th percentile per-packet one-way delay: 873.210 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 43.44 Mbit/s
95th percentile per-packet one-way delay: 1200.056 ms
Loss rate: 1.90%
-- Flow 3:
Average throughput: 50.43 Mbit/s
95th percentile per-packet one-way delay: 1580.432 ms
Loss rate: 4.59%
Run 3: Report of Muses

DecisionTreeH0 — Data Link

![Graph showing throughput and packet delay over time for different flows.]

- **Throughput**:
  - Flow 1 ingress (mean 46.47 Mbit/s)
  - Flow 1 egress (mean 46.22 Mbit/s)
  - Flow 2 ingress (mean 44.22 Mbit/s)
  - Flow 2 egress (mean 43.44 Mbit/s)
  - Flow 3 ingress (mean 52.72 Mbit/s)
  - Flow 3 egress (mean 50.43 Mbit/s)

- **Packet Delay**:
  - Flow 1 (95th percentile 873.21 ms)
  - Flow 2 (95th percentile 1200.06 ms)
  - Flow 3 (95th percentile 1580.43 ms)
Run 4: Statistics of Muses\_DecisionTreeHO

Start at: 2019-07-12 17:44:08
End at: 2019-07-12 17:44:38
Local clock offset: 2.724 ms
Remote clock offset: -4.332 ms

# Below is generated by plot.py at 2019-07-12 18:38:08
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 88.25 Mbit/s
  95th percentile per-packet one-way delay: 1433.465 ms
  Loss rate: 1.53%
-- Flow 1:
  Average throughput: 46.39 Mbit/s
  95th percentile per-packet one-way delay: 547.510 ms
  Loss rate: 0.27%
-- Flow 2:
  Average throughput: 38.53 Mbit/s
  95th percentile per-packet one-way delay: 1188.219 ms
  Loss rate: 1.99%
-- Flow 3:
  Average throughput: 51.18 Mbit/s
  95th percentile per-packet one-way delay: 1524.082 ms
  Loss rate: 4.27%
Run 4: Report of Muses_DocumentTreeH0 — Data Link
Run 5: Statistics of Muses\_DecisionTreeH0

Start at: 2019-07-12 18:13:33
End at: 2019-07-12 18:14:03
Local clock offset: 7.577 ms
Remote clock offset: -4.088 ms

# Below is generated by plot.py at 2019-07-12 18:38:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.97 Mbit/s
95th percentile per-packet one-way delay: 1402.083 ms
Loss rate: 3.15%
-- Flow 1:
Average throughput: 48.26 Mbit/s
95th percentile per-packet one-way delay: 831.715 ms
Loss rate: 2.19%
-- Flow 2:
Average throughput: 40.72 Mbit/s
95th percentile per-packet one-way delay: 1229.578 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 49.55 Mbit/s
95th percentile per-packet one-way delay: 1580.788 ms
Loss rate: 7.79%
Run 5: Report of Muses_DecisionTreeH0 — Data Link
Run 1: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 16:02:51
End at: 2019-07-12 16:03:21
Local clock offset: 6.164 ms
Remote clock offset: -1.873 ms

# Below is generated by plot.py at 2019-07-12 18:38:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 86.37 Mbit/s
  95th percentile per-packet one-way delay: 1218.207 ms
  Loss rate: 1.54%
-- Flow 1:
  Average throughput: 43.63 Mbit/s
  95th percentile per-packet one-way delay: 873.867 ms
  Loss rate: 0.68%
-- Flow 2:
  Average throughput: 39.87 Mbit/s
  95th percentile per-packet one-way delay: 1180.647 ms
  Loss rate: 1.66%
-- Flow 3:
  Average throughput: 51.27 Mbit/s
  95th percentile per-packet one-way delay: 1322.323 ms
  Loss rate: 3.56%
Run 1: Report of Muses

DecisionTreeR0 — Data Link

---

136
Run 2: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 16:32:28
End at: 2019-07-12 16:32:58
Local clock offset: 3.634 ms
Remote clock offset: -0.276 ms

# Below is generated by plot.py at 2019-07-12 18:38:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 83.85 Mbit/s
95th percentile per-packet one-way delay: 1044.447 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 43.88 Mbit/s
95th percentile per-packet one-way delay: 872.621 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 40.00 Mbit/s
95th percentile per-packet one-way delay: 1079.075 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 42.02 Mbit/s
95th percentile per-packet one-way delay: 1072.419 ms
Loss rate: 3.85%
Run 2: Report of Muses_DecisionTreeR0 — Data Link
Run 3: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 17:02:20
End at: 2019-07-12 17:02:50
Local clock offset: 2.831 ms
Remote clock offset: -2.609 ms

# Below is generated by plot.py at 2019-07-12 18:38:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 83.19 Mbit/s
  95th percentile per-packet one-way delay: 1197.669 ms
  Loss rate: 1.87%
-- Flow 1:
  Average throughput: 41.14 Mbit/s
  95th percentile per-packet one-way delay: 873.948 ms
  Loss rate: 0.62%
-- Flow 2:
  Average throughput: 37.08 Mbit/s
  95th percentile per-packet one-way delay: 1092.596 ms
  Loss rate: 3.13%
-- Flow 3:
  Average throughput: 54.77 Mbit/s
  95th percentile per-packet one-way delay: 1295.741 ms
  Loss rate: 2.95%
Run 3: Report of Muses_DecisionTreeR0 — Data Link

![Graph 1: Throughput](image)

- **Flow 1 ingress (mean 41.37 Mbit/s)**
- **Flow 1 egress (mean 41.14 Mbit/s)**
- **Flow 2 ingress (mean 38.23 Mbit/s)**
- **Flow 2 egress (mean 37.08 Mbit/s)**
- **Flow 3 ingress (mean 56.43 Mbit/s)**
- **Flow 3 egress (mean 54.77 Mbit/s)**

![Graph 2: End-to-End Delay](image)

- **Flow 1 (95th percentile 873.95 ms)**
- **Flow 2 (95th percentile 1092.60 ms)**
- **Flow 3 (95th percentile 1295.74 ms)**
Run 4: Statistics of Muses\_DecisionTreeRO

Start at: 2019-07-12 17:31:42
End at: 2019-07-12 17:32:12
Local clock offset: 2.434 ms
Remote clock offset: -4.201 ms

# Below is generated by plot.py at 2019-07-12 18:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 85.99 Mbit/s
95th percentile per-packet one-way delay: 1277.723 ms
Loss rate: 1.49%
-- Flow 1:
Average throughput: 42.94 Mbit/s
95th percentile per-packet one-way delay: 874.121 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 39.70 Mbit/s
95th percentile per-packet one-way delay: 1052.838 ms
Loss rate: 1.54%
-- Flow 3:
Average throughput: 52.52 Mbit/s
95th percentile per-packet one-way delay: 1435.848 ms
Loss rate: 3.59%
Run 4: Report of Muses_DecisionTreeR0 — Data Link

[Graph showing throughput and packet delay over time for different flows, with legends indicating mean throughput values for each flow.]
Run 5: Statistics of Muses\_DecisionTreeR0

Start at: 2019-07-12 18:01:03
End at: 2019-07-12 18:01:33
Local clock offset: 4.613 ms
Remote clock offset: -5.225 ms

# Below is generated by plot.py at 2019-07-12 18:39:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 79.67 Mbit/s
95th percentile per-packet one-way delay: 1008.806 ms
Loss rate: 1.84%
-- Flow 1:
Average throughput: 44.53 Mbit/s
95th percentile per-packet one-way delay: 873.983 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 41.49 Mbit/s
95th percentile per-packet one-way delay: 1032.717 ms
Loss rate: 2.61%
-- Flow 3:
Average throughput: 24.27 Mbit/s
95th percentile per-packet one-way delay: 566.750 ms
Loss rate: 5.88%
Run 5: Report of Muses_DecisionTreeR0 — Data Link

[Graph showing throughput and packet delay over time for different flows]

Flow 1 ingress (mean 44.77 Mbit/s)  |  Flow 1 egress (mean 44.53 Mbit/s)
Flow 2 ingress (mean 42.55 Mbit/s)  |  Flow 2 egress (mean 41.49 Mbit/s)
Flow 3 ingress (mean 25.70 Mbit/s)  |  Flow 3 egress (mean 24.27 Mbit/s)
Run 1: Statistics of PCC-Allegro

Start at: 2019-07-12 16:01:37
End at: 2019-07-12 16:02:07
Local clock offset: 7.248 ms
Remote clock offset: -1.421 ms

# Below is generated by plot.py at 2019-07-12 18:39:18
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.99 Mbit/s
95th percentile per-packet one-way delay: 2105.572 ms
Loss rate: 10.80%
-- Flow 1:
Average throughput: 58.64 Mbit/s
95th percentile per-packet one-way delay: 2144.375 ms
Loss rate: 10.44%
-- Flow 2:
Average throughput: 37.67 Mbit/s
95th percentile per-packet one-way delay: 1934.448 ms
Loss rate: 13.47%
-- Flow 3:
Average throughput: 31.34 Mbit/s
95th percentile per-packet one-way delay: 409.329 ms
Loss rate: 5.89%
Run 1: Report of PCC-Allegro — Data Link

![Graph 1: Throughput vs. Time]

- Flow 1 ingress (mean 65.43 Mbit/s)
- Flow 1 egress (mean 58.64 Mbit/s)
- Flow 2 ingress (mean 43.47 Mbit/s)
- Flow 2 egress (mean 37.67 Mbit/s)
- Flow 3 ingress (mean 33.18 Mbit/s)
- Flow 3 egress (mean 31.34 Mbit/s)

![Graph 2: Packet Delay vs. Time]

- Flow 1 (95th percentile 2144.38 ms)
- Flow 2 (95th percentile 1934.45 ms)
- Flow 3 (95th percentile 409.33 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2019-07-12 16:31:14
End at: 2019-07-12 16:31:44
Local clock offset: 3.554 ms
Remote clock offset: -0.931 ms

# Below is generated by plot.py at 2019-07-12 18:39:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.84 Mbit/s
  95th percentile per-packet one-way delay: 1818.743 ms
  Loss rate: 8.24%
-- Flow 1:
  Average throughput: 63.66 Mbit/s
  95th percentile per-packet one-way delay: 1831.711 ms
  Loss rate: 9.59%
-- Flow 2:
  Average throughput: 38.11 Mbit/s
  95th percentile per-packet one-way delay: 560.337 ms
  Loss rate: 6.45%
-- Flow 3:
  Average throughput: 17.78 Mbit/s
  95th percentile per-packet one-way delay: 24.674 ms
  Loss rate: 0.30%
Run 2: Report of PCC-Allegro — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 70.36 Mbit/s)
Flow 1 egress (mean 63.66 Mbit/s)
Flow 2 ingress (mean 40.69 Mbit/s)
Flow 2 egress (mean 38.11 Mbit/s)
Flow 3 ingress (mean 17.78 Mbit/s)
Flow 3 egress (mean 17.76 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 1831.71 ms)
Flow 2 (95th percentile 560.34 ms)
Flow 3 (95th percentile 24.67 ms)
Run 3: Statistics of PCC-Allegro

Start at: 2019-07-12 17:01:04
End at: 2019-07-12 17:01:34
Local clock offset: 3.171 ms
Remote clock offset: -1.999 ms

# Below is generated by plot.py at 2019-07-12 18:39:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.11 Mbit/s
95th percentile per-packet one-way delay: 2099.727 ms
Loss rate: 6.93%
-- Flow 1:
Average throughput: 57.33 Mbit/s
95th percentile per-packet one-way delay: 2107.550 ms
Loss rate: 10.58%
-- Flow 2:
Average throughput: 43.75 Mbit/s
95th percentile per-packet one-way delay: 30.337 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 17.27 Mbit/s
95th percentile per-packet one-way delay: 28.881 ms
Loss rate: 0.34%
Run 3: Report of PCC-Allegro — Data Link

![Graph 1: Throughput vs. Time](image1.png)

- Flow 1 ingress (mean 64.06 Mbit/s)
- Flow 1 egress (mean 57.33 Mbit/s)
- Flow 2 ingress (mean 43.76 Mbit/s)
- Flow 2 egress (mean 43.75 Mbit/s)
- Flow 3 ingress (mean 17.28 Mbit/s)
- Flow 3 egress (mean 17.27 Mbit/s)

![Graph 2: Per-packet delay vs. Time](image2.png)

- Flow 1 (95th percentile 2107.55 ms)
- Flow 2 (95th percentile 30.34 ms)
- Flow 3 (95th percentile 20.88 ms)
Run 4: Statistics of PCC-Allegro

Start at: 2019-07-12 17:30:30
End at: 2019-07-12 17:31:00
Local clock offset: 2.12 ms
Remote clock offset: -3.986 ms

# Below is generated by plot.py at 2019-07-12 18:39:26
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.31 Mbit/s
  95th percentile per-packet one-way delay: 1593.238 ms
  Loss rate: 10.65%
-- Flow 1:
  Average throughput: 65.18 Mbit/s
  95th percentile per-packet one-way delay: 1568.594 ms
  Loss rate: 10.16%
-- Flow 2:
  Average throughput: 34.82 Mbit/s
  95th percentile per-packet one-way delay: 2301.396 ms
  Loss rate: 14.27%
-- Flow 3:
  Average throughput: 18.22 Mbit/s
  95th percentile per-packet one-way delay: 30.448 ms
  Loss rate: 0.35%
Run 5: Statistics of PCC-Allegro

Start at: 2019-07-12 17:59:51
End at: 2019-07-12 18:00:21
Local clock offset: 3.813 ms
Remote clock offset: -4.454 ms

# Below is generated by plot.py at 2019-07-12 18:39:51
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.52 Mbit/s
  95th percentile per-packet one-way delay: 1676.515 ms
  Loss rate: 10.20%
-- Flow 1:
  Average throughput: 64.05 Mbit/s
  95th percentile per-packet one-way delay: 1636.498 ms
  Loss rate: 9.62%
-- Flow 2:
  Average throughput: 36.43 Mbit/s
  95th percentile per-packet one-way delay: 2663.824 ms
  Loss rate: 13.85%
-- Flow 3:
  Average throughput: 19.05 Mbit/s
  95th percentile per-packet one-way delay: 29.580 ms
  Loss rate: 0.34%
Run 5: Report of PCC-Allegro — Data Link

![Graph of Throughput (Mbps)]

- Flow 1 ingress (mean 70.82 Mbps) vs Flow 1 egress (mean 64.05 Mbps)
- Flow 2 ingress (mean 42.24 Mbps) vs Flow 2 egress (mean 36.43 Mbps)
- Flow 3 ingress (mean 19.06 Mbps) vs Flow 3 egress (mean 19.05 Mbps)

![Graph of Per-packet one-way delay (ms)]

- Flow 1 (95th percentile 1636.50 ms) vs Flow 2 (95th percentile 2663.82 ms) vs Flow 3 (95th percentile 29.58 ms)
Run 1: Statistics of PCC-Expr

Start at: 2019-07-12 16:12:50
End at: 2019-07-12 16:13:20
Local clock offset: 4.381 ms
Remote clock offset: -1.187 ms

# Below is generated by plot.py at 2019-07-12 18:41:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 91.23 Mbit/s
  95th percentile per-packet one-way delay: 760.264 ms
  Loss rate: 30.14%
-- Flow 1:
  Average throughput: 59.70 Mbit/s
  95th percentile per-packet one-way delay: 763.252 ms
  Loss rate: 39.59%
-- Flow 2:
  Average throughput: 32.88 Mbit/s
  95th percentile per-packet one-way delay: 278.437 ms
  Loss rate: 0.83%
-- Flow 3:
  Average throughput: 29.29 Mbit/s
  95th percentile per-packet one-way delay: 52.659 ms
  Loss rate: 0.61%
Run 1: Report of PCC-Expr — Data Link

[Graph showing throughput and packet one-way delay for different flows, with details on mean data rates and 95th percentile delays.]
Run 2: Statistics of PCC-Expr

Start at: 2019-07-12 16:42:25
End at: 2019-07-12 16:42:55
Local clock offset: 3.515 ms
Remote clock offset: -1.722 ms

# Below is generated by plot.py at 2019-07-12 18:41:14
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.00 Mbit/s
  95th percentile per-packet one-way delay: 1047.178 ms
  Loss rate: 16.04%
-- Flow 1:
  Average throughput: 65.05 Mbit/s
  95th percentile per-packet one-way delay: 1049.695 ms
  Loss rate: 20.28%
-- Flow 2:
  Average throughput: 26.17 Mbit/s
  95th percentile per-packet one-way delay: 72.309 ms
  Loss rate: 0.35%
-- Flow 3:
  Average throughput: 28.95 Mbit/s
  95th percentile per-packet one-way delay: 485.993 ms
  Loss rate: 9.14%
Run 2: Report of PCC-Expr — Data Link
Run 3: Statistics of PCC-Expr

Start at: 2019-07-12 17:12:17
End at: 2019-07-12 17:12:47
Local clock offset: 3.057 ms
Remote clock offset: -2.456 ms

# Below is generated by plot.py at 2019-07-12 18:41:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.72 Mbit/s
95th percentile per-packet one-way delay: 1233.295 ms
Loss rate: 13.87%
-- Flow 1:
Average throughput: 58.30 Mbit/s
95th percentile per-packet one-way delay: 1172.210 ms
Loss rate: 18.39%
-- Flow 2:
Average throughput: 34.96 Mbit/s
95th percentile per-packet one-way delay: 1356.920 ms
Loss rate: 5.68%
-- Flow 3:
Average throughput: 27.86 Mbit/s
95th percentile per-packet one-way delay: 154.051 ms
Loss rate: 0.86%
Run 3: Report of PCC-Expr — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 71.37 Mbit/s)
Flow 1 egress (mean 58.30 Mbit/s)
Flow 2 ingress (mean 37.01 Mbit/s)
Flow 2 egress (mean 34.96 Mbit/s)
Flow 3 ingress (mean 26.01 Mbit/s)
Flow 3 egress (mean 27.86 Mbit/s)

Packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 1172.21 ms)
Flow 2 (95th percentile 1356.92 ms)
Flow 3 (95th percentile 154.05 ms)
Run 4: Statistics of PCC-Expr

Start at: 2019-07-12 17:41:35
End at: 2019-07-12 17:42:05
Local clock offset: 2.617 ms
Remote clock offset: -2.062 ms

# Below is generated by plot.py at 2019-07-12 18:41:32
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.19 Mbit/s
95th percentile per-packet one-way delay: 915.780 ms
Loss rate: 21.64%
-- Flow 1:
Average throughput: 57.29 Mbit/s
95th percentile per-packet one-way delay: 906.436 ms
Loss rate: 27.60%
-- Flow 2:
Average throughput: 31.42 Mbit/s
95th percentile per-packet one-way delay: 973.869 ms
Loss rate: 14.35%
-- Flow 3:
Average throughput: 42.48 Mbit/s
95th percentile per-packet one-way delay: 98.027 ms
Loss rate: 0.86%
Run 4: Report of PCC-Expr — Data Link

**Throughput (Mbps):**
- Flow 1 ingress (mean 79.07 Mbps)
- Flow 1 egress (mean 57.29 Mbps)
- Flow 2 ingress (mean 36.64 Mbps)
- Flow 2 egress (mean 31.42 Mbps)
- Flow 3 ingress (mean 42.73 Mbps)
- Flow 3 egress (mean 42.48 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 906.44 ms)
- Flow 2 (95th percentile 973.87 ms)
- Flow 3 (95th percentile 98.03 ms)
Run 5: Statistics of PCC-Expr

Start at: 2019-07-12 18:10:54
End at: 2019-07-12 18:11:24
Local clock offset: 7.057 ms
Remote clock offset: -2.387 ms

# Below is generated by plot.py at 2019-07-12 18:41:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.97 Mbit/s
95th percentile per-packet one-way delay: 1023.701 ms
Loss rate: 21.52%
-- Flow 1:
Average throughput: 59.19 Mbit/s
95th percentile per-packet one-way delay: 913.665 ms
Loss rate: 28.17%
-- Flow 2:
Average throughput: 35.85 Mbit/s
95th percentile per-packet one-way delay: 1265.427 ms
Loss rate: 7.64%
-- Flow 3:
Average throughput: 27.15 Mbit/s
95th percentile per-packet one-way delay: 46.321 ms
Loss rate: 0.37%
Run 5: Report of PCC-Expr — Data Link

![Graph 1: Throughput (Mbps)]

![Graph 2: Per-packet one-way delay (ms)]

Flow 1 ingress (mean 82.30 Mbit/s)
Flow 1 egress (mean 59.19 Mbit/s)
Flow 2 ingress (mean 38.77 Mbit/s)
Flow 2 egress (mean 35.85 Mbit/s)
Flow 3 ingress (mean 27.19 Mbit/s)
Flow 3 egress (mean 27.15 Mbit/s)
Run 1: Statistics of QUIC Cubic

Start at: 2019-07-12 16:05:19
End at: 2019-07-12 16:05:49
Local clock offset: 5.703 ms
Remote clock offset: -0.538 ms

# Below is generated by plot.py at 2019-07-12 18:41:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 93.57 Mbit/s
  95th percentile per-packet one-way delay: 30.636 ms
  Loss rate: 0.18%
-- Flow 1:
  Average throughput: 54.44 Mbit/s
  95th percentile per-packet one-way delay: 34.367 ms
  Loss rate: 0.09%
-- Flow 2:
  Average throughput: 47.22 Mbit/s
  95th percentile per-packet one-way delay: 28.851 ms
  Loss rate: 0.27%
-- Flow 3:
  Average throughput: 23.46 Mbit/s
  95th percentile per-packet one-way delay: 42.649 ms
  Loss rate: 0.50%
Run 1: Report of QUIC Cubic — Data Link

[Graph showing the throughput and per-packet one-way delay for different flows over time.]

- Flow 1 ingress (mean 54.45 Mbit/s)
- Flow 1 egress (mean 54.44 Mbit/s)
- Flow 2 ingress (mean 47.30 Mbit/s)
- Flow 2 egress (mean 47.22 Mbit/s)
- Flow 3 ingress (mean 23.52 Mbit/s)
- Flow 3 egress (mean 23.46 Mbit/s)
Run 2: Statistics of QUIC Cubic

Start at: 2019-07-12 16:34:53
End at: 2019-07-12 16:35:23
Local clock offset: 3.716 ms
Remote clock offset: -2.004 ms

# Below is generated by plot.py at 2019-07-12 18:41:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 92.80 Mbit/s
95th percentile per-packet one-way delay: 33.403 ms
Loss rate: 0.16%
-- Flow 1:
Average throughput: 56.19 Mbit/s
95th percentile per-packet one-way delay: 32.952 ms
Loss rate: 0.10%
-- Flow 2:
Average throughput: 39.72 Mbit/s
95th percentile per-packet one-way delay: 32.053 ms
Loss rate: 0.18%
-- Flow 3:
Average throughput: 30.89 Mbit/s
95th percentile per-packet one-way delay: 61.553 ms
Loss rate: 0.45%
Run 2: Report of QUIC Cubic — Data Link

[Graph of network performance metrics showing throughput and per-packet round-trip delay over time for different flows.]
Run 3: Statistics of QUIC Cubic

Start at: 2019-07-12 17:04:42
End at: 2019-07-12 17:05:12
Local clock offset: 3.045 ms
Remote clock offset: -1.94 ms

# Below is generated by plot.py at 2019-07-12 18:41:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.69 Mbit/s
95th percentile per-packet one-way delay: 31.159 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 62.01 Mbit/s
95th percentile per-packet one-way delay: 30.221 ms
Loss rate: 0.11%
-- Flow 2:
Average throughput: 36.02 Mbit/s
95th percentile per-packet one-way delay: 32.901 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 23.41 Mbit/s
95th percentile per-packet one-way delay: 41.498 ms
Loss rate: 0.52%
Run 3: Report of QUIC Cubic — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.](image)

- Flow 1 ingress (mean 62.02 Mbit/s)
- Flow 1 egress (mean 62.01 Mbit/s)
- Flow 2 ingress (mean 36.03 Mbit/s)
- Flow 2 egress (mean 36.02 Mbit/s)
- Flow 3 ingress (mean 23.48 Mbit/s)
- Flow 3 egress (mean 23.41 Mbit/s)
Run 4: Statistics of QUIC Cubic

Start at: 2019-07-12 17:34:04
End at: 2019-07-12 17:34:34
Local clock offset: 2.91 ms
Remote clock offset: -3.077 ms

# Below is generated by plot.py at 2019-07-12 18:41:56
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.39 Mbit/s
  95th percentile per-packet one-way delay: 31.848 ms
  Loss rate: 0.17%
-- Flow 1:
  Average throughput: 60.79 Mbit/s
  95th percentile per-packet one-way delay: 30.779 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 36.13 Mbit/s
  95th percentile per-packet one-way delay: 32.391 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 22.97 Mbit/s
  95th percentile per-packet one-way delay: 38.025 ms
  Loss rate: 0.50%
Run 4: Report of QUIC Cubic — Data Link
Run 5: Statistics of QUIC Cubic

Start at: 2019-07-12 18:03:26
End at: 2019-07-12 18:03:56
Local clock offset: 4.954 ms
Remote clock offset: -3.051 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.72 Mbit/s
95th percentile per-packet one-way delay: 33.342 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 54.61 Mbit/s
95th percentile per-packet one-way delay: 34.145 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 36.04 Mbit/s
95th percentile per-packet one-way delay: 31.469 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 45.82 Mbit/s
95th percentile per-packet one-way delay: 30.978 ms
Loss rate: 0.51%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

End at: 2019-07-12 16:24:25
Local clock offset: 3.459 ms
Remote clock offset: -2.019 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 21.358 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 21.364 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 21.198 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 21.374 ms
Loss rate: 0.36%
Run 1: Report of SCReAM — Data Link

[Graph showing throughput and delay over time for different flows with specific labels and colors for ingress and egress with mean values shown as 0.21 Mb/s and 0.22 Mb/s respectively.]

[Graph showing packet loss over time for different flows with specific labels and colors for 95th percentile delay with values shown as 21.36 ms, 21.20 ms, and 21.37 ms respectively.]
Run 2: Statistics of SCReAM

Start at: 2019-07-12 16:53:31
End at: 2019-07-12 16:54:01
Local clock offset: 4.004 ms
Remote clock offset: -0.838 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 20.390 ms
Loss rate: 0.23%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.409 ms
Loss rate: 0.22%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.324 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.338 ms
Loss rate: 0.35%
Run 2: Report of SCReAM — Data Link

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.21 Mbit/s) — Flow 1 egress (mean 0.21 Mbit/s)
Flow 2 ingress (mean 0.21 Mbit/s) — Flow 2 egress (mean 0.21 Mbit/s)
Flow 3 ingress (mean 0.21 Mbit/s) — Flow 3 egress (mean 0.21 Mbit/s)

Delay (microseconds)

Time (s)

Flow 1 (95th percentile 20.41 ms) — Flow 2 (95th percentile 20.32 ms) — Flow 3 (95th percentile 20.34 ms)
Run 3: Statistics of SCReAM

Start at: 2019-07-12 17:23:11
End at: 2019-07-12 17:23:41
Local clock offset: 2.762 ms
Remote clock offset: -2.572 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 20.920 ms
Loss rate: 0.12%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.915 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.848 ms
Loss rate: 0.19%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 20.927 ms
Loss rate: 0.35%
Run 4: Statistics of SCReAM

Start at: 2019-07-12 17:52:31
End at: 2019-07-12 17:53:01
Local clock offset: 2.321 ms
Remote clock offset: -2.593 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 19.019 ms
  Loss rate: 0.19%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 18.835 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 18.995 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 19.064 ms
  Loss rate: 0.36%
Run 4: Report of SCReAM — Data Link
Run 5: Statistics of SCReAM

Start at: 2019-07-12 18:21:58
Local clock offset: 8.742 ms
Remote clock offset: -4.548 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 21.441 ms
  Loss rate: 0.19%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 21.391 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 21.461 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 21.349 ms
  Loss rate: 0.35%
Run 5: Report of SCReAM — Data Link
Run 1: Statistics of Sprout

Start at: 2019-07-12 16:16:47
End at: 2019-07-12 16:17:17
Local clock offset: 3.56 ms
Remote clock offset: -0.273 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.46 Mbit/s
95th percentile per-packet one-way delay: 26.220 ms
Loss rate: 0.14%
-- Flow 1:
Average throughput: 24.39 Mbit/s
95th percentile per-packet one-way delay: 25.106 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 24.25 Mbit/s
95th percentile per-packet one-way delay: 26.431 ms
Loss rate: 0.20%
-- Flow 3:
Average throughput: 24.03 Mbit/s
95th percentile per-packet one-way delay: 27.927 ms
Loss rate: 0.26%
Run 1: Report of Sprout — Data Link

![Graph showing throughput and per-packet one-way delay over time.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 24.39 Mbps)
  - Flow 1 egress (mean 24.39 Mbps)
  - Flow 2 ingress (mean 24.26 Mbps)
  - Flow 2 egress (mean 24.25 Mbps)
  - Flow 3 ingress (mean 24.07 Mbps)
  - Flow 3 egress (mean 24.03 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 25.11 ms)
  - Flow 2 (95th percentile 26.43 ms)
  - Flow 3 (95th percentile 27.93 ms)
Run 2: Statistics of Sprout

Start at: 2019-07-12 16:46:19
End at: 2019-07-12 16:46:49
Local clock offset: 3.755 ms
Remote clock offset: -1.598 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 47.40 Mbit/s
95th percentile per-packet one-way delay: 30.085 ms
Loss rate: 0.17%
-- Flow 1:
Average throughput: 23.76 Mbit/s
95th percentile per-packet one-way delay: 30.367 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 23.61 Mbit/s
95th percentile per-packet one-way delay: 30.109 ms
Loss rate: 0.17%
-- Flow 3:
Average throughput: 24.05 Mbit/s
95th percentile per-packet one-way delay: 29.810 ms
Loss rate: 0.29%
Run 2: Report of Sprout — Data Link

[Graphs showing throughput and packet delay over time for different flows, with specific values and variations indicated.]
Run 3: Statistics of Sprout

Start at: 2019-07-12 17:16:07
End at: 2019-07-12 17:16:37
Local clock offset: 2.322 ms
Remote clock offset: -3.416 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 47.98 Mbit/s
  95th percentile per-packet one-way delay: 29.926 ms
  Loss rate: 0.14%
-- Flow 1:
  Average throughput: 24.27 Mbit/s
  95th percentile per-packet one-way delay: 29.510 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 24.10 Mbit/s
  95th percentile per-packet one-way delay: 30.192 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 23.25 Mbit/s
  95th percentile per-packet one-way delay: 30.502 ms
  Loss rate: 0.27%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2019-07-12 17:45:20
End at: 2019-07-12 17:45:50
Local clock offset: 2.921 ms
Remote clock offset: -4.843 ms

# Below is generated by plot.py at 2019-07-12 18:42:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 48.53 Mbit/s
95th percentile per-packet one-way delay: 30.295 ms
Loss rate: 0.15%
-- Flow 1:
Average throughput: 24.43 Mbit/s
95th percentile per-packet one-way delay: 30.020 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 24.46 Mbit/s
95th percentile per-packet one-way delay: 30.714 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 23.76 Mbit/s
95th percentile per-packet one-way delay: 29.180 ms
Loss rate: 0.42%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2019-07-12 18:14:45
End at: 2019-07-12 18:15:15
Local clock offset: 7.89 ms
Remote clock offset: -3.354 ms

# Below is generated by plot.py at 2019-07-12 18:42:12
# Datalink statistics
-- Total of 3 flows:
   Average throughput: 48.23 Mbit/s
   95th percentile per-packet one-way delay: 30.021 ms
   Loss rate: 0.19%
-- Flow 1:
   Average throughput: 24.32 Mbit/s
   95th percentile per-packet one-way delay: 28.787 ms
   Loss rate: 0.12%
-- Flow 2:
   Average throughput: 24.38 Mbit/s
   95th percentile per-packet one-way delay: 29.626 ms
   Loss rate: 0.20%
-- Flow 3:
   Average throughput: 23.30 Mbit/s
   95th percentile per-packet one-way delay: 32.012 ms
   Loss rate: 0.40%
Run 5: Report of Sprout — Data Link

![Graph 1: Throughput (Mbps) vs Time (s)]

![Graph 2: Per-packet delay (ms) vs Time (s)]

*Flow 1 ingress (mean 24.33 Mbit/s)*
*Flow 1 egress (mean 24.32 Mbit/s)*
*Flow 2 ingress (mean 24.40 Mbit/s)*
*Flow 2 egress (mean 24.38 Mbit/s)*
*Flow 3 ingress (mean 23.35 Mbit/s)*
*Flow 3 egress (mean 23.30 Mbit/s)*

*Flow 1 (95th percentile 28.79 ms)*
*Flow 2 (95th percentile 29.63 ms)*
*Flow 3 (95th percentile 32.01 ms)*
Run 1: Statistics of TaoVA-100x

Start at: 2019-07-12 16:10:17
End at: 2019-07-12 16:10:47
Local clock offset: 4.244 ms
Remote clock offset: -1.306 ms

# Below is generated by plot.py at 2019-07-12 18:43:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.06 Mbit/s
95th percentile per-packet one-way delay: 179.609 ms
Loss rate: 0.48%
-- Flow 1:
Average throughput: 61.72 Mbit/s
95th percentile per-packet one-way delay: 45.488 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 36.20 Mbit/s
95th percentile per-packet one-way delay: 189.502 ms
Loss rate: 0.58%
-- Flow 3:
Average throughput: 24.77 Mbit/s
95th percentile per-packet one-way delay: 196.187 ms
Loss rate: 2.98%
Run 1: Report of TaoVA-100x — Data Link

![Graph showing network performance metrics over time.]

- **Flow 1 ingress** (mean 61.73 Mbit/s)
- **Flow 1 egress** (mean 61.72 Mbit/s)
- **Flow 2 ingress** (mean 36.36 Mbit/s)
- **Flow 2 egress** (mean 36.20 Mbit/s)
- **Flow 3 ingress** (mean 25.46 Mbit/s)
- **Flow 3 egress** (mean 24.77 Mbit/s)

![Graph showing packet per second delay over time.]

- Flow 1 (95th percentile 45.49 ms)
- Flow 2 (95th percentile 189.50 ms)
- Flow 3 (95th percentile 196.19 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2019-07-12 16:39:46
End at: 2019-07-12 16:40:16
Local clock offset: 3.191 ms
Remote clock offset: -0.618 ms

# Below is generated by plot.py at 2019-07-12 18:43:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.92 Mbit/s
95th percentile per-packet one-way delay: 149.246 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 56.97 Mbit/s
95th percentile per-packet one-way delay: 150.387 ms
Loss rate: 1.00%
-- Flow 2:
Average throughput: 39.47 Mbit/s
95th percentile per-packet one-way delay: 148.152 ms
Loss rate: 1.16%
-- Flow 3:
Average throughput: 32.10 Mbit/s
95th percentile per-packet one-way delay: 148.767 ms
Loss rate: 1.79%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2019-07-12 17:09:40
End at: 2019-07-12 17:10:10
Local clock offset: 2.185 ms
Remote clock offset: -2.548 ms

# Below is generated by plot.py at 2019-07-12 18:44:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 93.73 Mbit/s
  95th percentile per-packet one-way delay: 126.874 ms
  Loss rate: 0.46%
-- Flow 1:
  Average throughput: 61.44 Mbit/s
  95th percentile per-packet one-way delay: 48.318 ms
  Loss rate: 0.10%
-- Flow 2:
  Average throughput: 36.08 Mbit/s
  95th percentile per-packet one-way delay: 188.456 ms
  Loss rate: 0.92%
-- Flow 3:
  Average throughput: 24.86 Mbit/s
  95th percentile per-packet one-way delay: 196.058 ms
  Loss rate: 1.79%
Run 3: Report of TaoVA-100x — Data Link

![Graph 1: Throughput vs. Time]

- Flow 1 ingress (mean 61.44 Mbit/s)
- Flow 1 egress (mean 61.44 Mbit/s)
- Flow 2 ingress (mean 36.36 Mbit/s)
- Flow 2 egress (mean 36.08 Mbit/s)
- Flow 3 ingress (mean 25.24 Mbit/s)
- Flow 3 egress (mean 24.66 Mbit/s)

![Graph 2: Per-packet round-trip delay vs. Time]

- Flow 1 (95th percentile 48.32 ms)
- Flow 2 (95th percentile 188.46 ms)
- Flow 3 (95th percentile 196.06 ms)
Run 4: Statistics of TaoVA-100x

Start at: 2019-07-12 17:39:03
End at: 2019-07-12 17:39:33
Local clock offset: 2.268 ms
Remote clock offset: -2.201 ms

# Below is generated by plot.py at 2019-07-12 18:44:01
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.94 Mbit/s
95th percentile per-packet one-way delay: 151.373 ms
Loss rate: 0.93%
-- Flow 1:
Average throughput: 57.08 Mbit/s
95th percentile per-packet one-way delay: 147.235 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 39.57 Mbit/s
95th percentile per-packet one-way delay: 152.274 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 31.65 Mbit/s
95th percentile per-packet one-way delay: 152.384 ms
Loss rate: 2.71%
Run 4: Report of TaoVA-100x — Data Link

![Graph 1: Throughput (Mbps/s)]

![Graph 2: Per-packet one-way delay (ms)]
Run 5: Statistics of TaoVA-100x

Start at: 2019-07-12 18:08:18
End at: 2019-07-12 18:08:48
Local clock offset: 6.119 ms
Remote clock offset: -2.54 ms

# Below is generated by plot.py at 2019-07-12 18:44:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.73 Mbit/s
95th percentile per-packet one-way delay: 153.333 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 61.34 Mbit/s
95th percentile per-packet one-way delay: 46.267 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 36.21 Mbit/s
95th percentile per-packet one-way delay: 197.004 ms
Loss rate: 0.50%
-- Flow 3:
Average throughput: 24.94 Mbit/s
95th percentile per-packet one-way delay: 194.220 ms
Loss rate: 1.71%
Run 5: Report of TaoVA-100x — Data Link

![Graph showing network traffic over time with annotations for throughput and packet delay.]
Run 1: Statistics of TCP Vegas

Start at: 2019-07-12 16:21:33
End at: 2019-07-12 16:22:03
Local clock offset: 3.175 ms
Remote clock offset: -1.223 ms

# Below is generated by plot.py at 2019-07-12 18:44:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 93.39 Mbit/s
  95th percentile per-packet one-way delay: 22.577 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 55.70 Mbit/s
  95th percentile per-packet one-way delay: 22.432 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 39.26 Mbit/s
  95th percentile per-packet one-way delay: 22.457 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 34.79 Mbit/s
  95th percentile per-packet one-way delay: 22.868 ms
  Loss rate: 0.25%
Run 1: Report of TCP Vegas — Data Link

[Graph 1: Throughput vs Time for different flows with mean throughput values]

[Graph 2: Per-packet one-way delay vs Time for different flows with 95th percentile delay values]

206
Run 2: Statistics of TCP Vegas

Start at: 2019-07-12 16:51:11
End at: 2019-07-12 16:51:41
Local clock offset: 3.389 ms
Remote clock offset: -1.259 ms

# Below is generated by plot.py at 2019-07-12 18:44:02
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 95.26 Mbit/s
  95th percentile per-packet one-way delay: 22.536 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 57.72 Mbit/s
  95th percentile per-packet one-way delay: 22.467 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 35.59 Mbit/s
  95th percentile per-packet one-way delay: 22.701 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 41.67 Mbit/s
  95th percentile per-packet one-way delay: 21.868 ms
  Loss rate: 0.27%
Run 2: Report of TCP Vegas — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 57.70 Mbps)
  - Flow 1 egress (mean 57.72 Mbps)
  - Flow 2 ingress (mean 35.59 Mbps)
  - Flow 2 egress (mean 35.59 Mbps)
  - Flow 3 ingress (mean 41.69 Mbps)
  - Flow 3 egress (mean 41.67 Mbps)

- **Per-packet one-way delay (ms):**
  - Flow 1 (95th percentile 22.47 ms)
  - Flow 2 (95th percentile 22.70 ms)
  - Flow 3 (95th percentile 21.87 ms)
Run 3: Statistics of TCP Vegas

Start at: 2019-07-12 17:20:52
End at: 2019-07-12 17:21:22
Local clock offset: 0.198 ms
Remote clock offset: -6.221 ms

# Below is generated by plot.py at 2019-07-12 18:44:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.60 Mbit/s
95th percentile per-packet one-way delay: 24.527 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 55.94 Mbit/s
95th percentile per-packet one-way delay: 24.710 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 35.64 Mbit/s
95th percentile per-packet one-way delay: 24.478 ms
Loss rate: 0.11%
-- Flow 3:
Average throughput: 41.97 Mbit/s
95th percentile per-packet one-way delay: 23.894 ms
Loss rate: 0.29%
Run 3: Report of TCP Vegas — Data Link

![Graph showing throughput and per-packet round-trip delay](image)

Legend:
- Flow 1 ingress (mean 55.92 Mbit/s)
- Flow 1 egress (mean 55.94 Mbit/s)
- Flow 2 ingress (mean 35.63 Mbit/s)
- Flow 2 egress (mean 35.64 Mbit/s)
- Flow 3 ingress (mean 41.99 Mbit/s)
- Flow 3 egress (mean 41.97 Mbit/s)
Run 4: Statistics of TCP Vegas

Start at: 2019-07-12 17:50:10
End at: 2019-07-12 17:50:40
Local clock offset: 2.217 ms
Remote clock offset: -3.712 ms

# Below is generated by plot.py at 2019-07-12 18:44:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 94.37 Mbit/s
95th percentile per-packet one-way delay: 23.087 ms
Loss rate: 0.10%
-- Flow 1:
Average throughput: 56.21 Mbit/s
95th percentile per-packet one-way delay: 22.480 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 32.86 Mbit/s
95th percentile per-packet one-way delay: 22.194 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 49.08 Mbit/s
95th percentile per-packet one-way delay: 24.224 ms
Loss rate: 0.27%
Run 4: Report of TCP Vegas — Data Link

![Graph of Throughput and Per-packet one-way delay](image)

**Throughput (Mbps)**
- Flow 1 ingress (mean 56.18 Mbps)
- Flow 1 egress (mean 56.21 Mbps)
- Flow 2 ingress (mean 32.85 Mbps)
- Flow 2 egress (mean 32.86 Mbps)
- Flow 3 ingress (mean 49.08 Mbps)
- Flow 3 egress (mean 49.08 Mbps)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 22.48 ms)
- Flow 2 (95th percentile 22.39 ms)
- Flow 3 (95th percentile 24.22 ms)
Run 5: Statistics of TCP Vegas

Start at: 2019-07-12 18:19:38
End at: 2019-07-12 18:20:08
Local clock offset: 9.459 ms
Remote clock offset: -2.518 ms

# Below is generated by plot.py at 2019-07-12 18:44:14
# Datalink statistics
-- Total of 3 flows:
Average throughput: 81.90 Mbit/s
95th percentile per-packet one-way delay: 22.747 ms
Loss rate: 0.22%
-- Flow 1:
Average throughput: 38.07 Mbit/s
95th percentile per-packet one-way delay: 22.768 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 44.88 Mbit/s
95th percentile per-packet one-way delay: 22.758 ms
Loss rate: 0.35%
-- Flow 3:
Average throughput: 41.99 Mbit/s
95th percentile per-packet one-way delay: 22.206 ms
Loss rate: 0.27%
Run 5: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2019-07-12 16:11:36
End at: 2019-07-12 16:12:06
Local clock offset: 4.493 ms
Remote clock offset: -0.912 ms

# Below is generated by plot.py at 2019-07-12 18:44:30
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.74 Mbit/s
95th percentile per-packet one-way delay: 77.630 ms
Loss rate: 0.36%
-- Flow 1:
Average throughput: 54.44 Mbit/s
95th percentile per-packet one-way delay: 78.007 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 47.01 Mbit/s
95th percentile per-packet one-way delay: 57.558 ms
Loss rate: 0.42%
-- Flow 3:
Average throughput: 24.24 Mbit/s
95th percentile per-packet one-way delay: 312.171 ms
Loss rate: 1.17%
Run 1: Report of Verus — Data Link

The plots show the throughput and per-packet one-way delay for three flows over time. The throughput plot demonstrates the data transmission rate, which peaked and then decreased. The per-packet delay plot indicates the latency of data transmission, with notable spikes occurring at certain times. The flows are distinguished by their throughput and egress rates, as indicated by the legend.
Run 2: Statistics of Verus

Start at: 2019-07-12 16:41:04
End at: 2019-07-12 16:41:34
Local clock offset: 2.635 ms
Remote clock offset: -1.653 ms

# Below is generated by plot.py at 2019-07-12 18:44:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 94.21 Mbit/s
  95th percentile per-packet one-way delay: 71.731 ms
  Loss rate: 0.32%
  -- Flow 1:
  Average throughput: 57.09 Mbit/s
  95th percentile per-packet one-way delay: 75.306 ms
  Loss rate: 0.21%
  -- Flow 2:
  Average throughput: 39.39 Mbit/s
  95th percentile per-packet one-way delay: 60.633 ms
  Loss rate: 0.44%
  -- Flow 3:
  Average throughput: 32.91 Mbit/s
  95th percentile per-packet one-way delay: 109.148 ms
  Loss rate: 0.65%
Run 2: Report of Verus — Data Link

![Graph 1: Throughput vs Time](image1)
- Flow 1 ingress (mean 57.16 Mbit/s)
- Flow 2 ingress (mean 39.52 Mbit/s)
- Flow 3 ingress (mean 33.05 Mbit/s)
- Flow 1 egress (mean 57.09 Mbit/s)
- Flow 2 egress (mean 39.39 Mbit/s)
- Flow 3 egress (mean 32.91 Mbit/s)

![Graph 2: Per Packet One-Way Delay vs Time](image2)
- Flow 1 (95th percentile 75.31 ms)
- Flow 2 (95th percentile 60.63 ms)
- Flow 3 (95th percentile 109.15 ms)
Run 3: Statistics of Verus

Start at: 2019-07-12 17:10:58
End at: 2019-07-12 17:11:28
Local clock offset: 2.726 ms
Remote clock offset: -2.088 ms

# Below is generated by plot.py at 2019-07-12 18:45:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.81 Mbit/s
95th percentile per-packet one-way delay: 71.436 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 54.95 Mbit/s
95th percentile per-packet one-way delay: 69.134 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 33.97 Mbit/s
95th percentile per-packet one-way delay: 76.231 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 49.04 Mbit/s
95th percentile per-packet one-way delay: 113.981 ms
Loss rate: 0.70%
Run 3: Report of Verus — Data Link

Throughput (Mbps):

- Flow 1 ingress (mean 54.98 Mbps)
- Flow 1 egress (mean 54.95 Mbps)
- Flow 2 ingress (mean 34.02 Mbps)
- Flow 2 egress (mean 33.97 Mbps)
- Flow 3 ingress (mean 49.27 Mbps)
- Flow 3 egress (mean 49.04 Mbps)

Per packet one-way delay (ms):

- Flow 1 (95th percentile 69.13 ms)
- Flow 2 (95th percentile 76.23 ms)
- Flow 3 (95th percentile 113.98 ms)
Run 4: Statistics of Verus

Start at: 2019-07-12 17:40:20
End at: 2019-07-12 17:40:50
Local clock offset: 3.017 ms
Remote clock offset: -3.111 ms

# Below is generated by plot.py at 2019-07-12 18:45:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 93.00 Mbit/s
95th percentile per-packet one-way delay: 78.415 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 55.67 Mbit/s
95th percentile per-packet one-way delay: 82.826 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 40.18 Mbit/s
95th percentile per-packet one-way delay: 63.206 ms
Loss rate: 0.13%
-- Flow 3:
Average throughput: 31.96 Mbit/s
95th percentile per-packet one-way delay: 147.507 ms
Loss rate: 0.67%
Run 4: Report of Verus — Data Link

![Graph showing throughput and packet delay over time for different flows.]

- **Flow 1** ingress (mean 55.74 Mbit/s)
- **Flow 1** egress (mean 55.67 Mbit/s)
- **Flow 2** ingress (mean 40.16 Mbit/s)
- **Flow 2** egress (mean 40.18 Mbit/s)
- **Flow 3** ingress (mean 32.69 Mbit/s)
- **Flow 3** egress (mean 31.96 Mbit/s)
Run 5: Statistics of Verus

Start at: 2019-07-12 18:09:40
End at: 2019-07-12 18:10:10
Local clock offset: 7.13 ms
Remote clock offset: -4.357 ms

# Below is generated by plot.py at 2019-07-12 18:45:11
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 92.05 Mbit/s
  95th percentile per-packet one-way delay: 84.133 ms
  Loss rate: 0.30%
-- Flow 1:
  Average throughput: 53.02 Mbit/s
  95th percentile per-packet one-way delay: 71.639 ms
  Loss rate: 0.16%
-- Flow 2:
  Average throughput: 45.98 Mbit/s
  95th percentile per-packet one-way delay: 129.222 ms
  Loss rate: 0.50%
-- Flow 3:
  Average throughput: 25.37 Mbit/s
  95th percentile per-packet one-way delay: 126.930 ms
  Loss rate: 0.48%
Run 5: Report of Verus — Data Link

[Graph 1]

[Graph 2]
Run 1: Statistics of PCC-Vivace

Start at: 2019-07-12 16:14:14
End at: 2019-07-12 16:14:44
Local clock offset: 3.442 ms
Remote clock offset: -0.523 ms

# Below is generated by plot.py at 2019-07-12 18:45:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 61.09 Mbit/s
95th percentile per-packet one-way delay: 22.723 ms
Loss rate: 0.13%
-- Flow 1:
Average throughput: 32.50 Mbit/s
95th percentile per-packet one-way delay: 21.429 ms
Loss rate: 0.05%
-- Flow 2:
Average throughput: 32.61 Mbit/s
95th percentile per-packet one-way delay: 22.919 ms
Loss rate: 0.10%
-- Flow 3:
Average throughput: 20.97 Mbit/s
95th percentile per-packet one-way delay: 29.986 ms
Loss rate: 0.63%
Run 1: Report of PCC-Vivace — Data Link
Run 2: Statistics of PCC-Vivace

Start at: 2019-07-12 16:43:50
End at: 2019-07-12 16:44:20
Local clock offset: 3.827 ms
Remote clock offset: -1.079 ms

# Below is generated by plot.py at 2019-07-12 18:45:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 87.17 Mbit/s
  95th percentile per-packet one-way delay: 77.340 ms
  Loss rate: 0.35%
-- Flow 1:
  Average throughput: 64.61 Mbit/s
  95th percentile per-packet one-way delay: 151.297 ms
  Loss rate: 0.40%
-- Flow 2:
  Average throughput: 24.91 Mbit/s
  95th percentile per-packet one-way delay: 33.162 ms
  Loss rate: 0.16%
-- Flow 3:
  Average throughput: 18.22 Mbit/s
  95th percentile per-packet one-way delay: 25.889 ms
  Loss rate: 0.24%
Run 2: Report of PCC-Vivace — Data Link

---

**Throughput vs. Time**
- **Flow 1 ingress (mean 64.82 Mbit/s)**
- **Flow 1 egress (mean 64.61 Mbit/s)**
- **Flow 2 ingress (mean 24.92 Mbit/s)**
- **Flow 2 egress (mean 24.91 Mbit/s)**
- **Flow 3 ingress (mean 18.23 Mbit/s)**
- **Flow 3 egress (mean 18.22 Mbit/s)**

---

**Per-packet one-way delay vs. Time**
- **Flow 1 (95th percentile 151.30 ms)**
- **Flow 2 (95th percentile 33.16 ms)**
- **Flow 3 (95th percentile 25.89 ms)**

---

228
Run 3: Statistics of PCC-Vivace

Start at: 2019-07-12 17:13:38  
End at: 2019-07-12 17:14:08  
Local clock offset: 3.068 ms  
Remote clock offset: -0.563 ms

# Below is generated by plot.py at 2019-07-12 18:45:20  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 85.38 Mbit/s  
95th percentile per-packet one-way delay: 29.067 ms  
Loss rate: 0.13%  
-- Flow 1:  
Average throughput: 60.27 Mbit/s  
95th percentile per-packet one-way delay: 25.100 ms  
Loss rate: 0.10%  
-- Flow 2:  
Average throughput: 31.36 Mbit/s  
95th percentile per-packet one-way delay: 34.552 ms  
Loss rate: 0.18%  
-- Flow 3:  
Average throughput: 12.83 Mbit/s  
95th percentile per-packet one-way delay: 23.033 ms  
Loss rate: 0.37%
Run 3: Report of PCC-Vivace — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.](image)

**Throughput (Mbps)**
- Flow 1 ingress (mean 60.28 Mbps)
- Flow 1 egress (mean 60.27 Mbps)
- Flow 2 ingress (mean 31.38 Mbps)
- Flow 2 egress (mean 31.36 Mbps)
- Flow 3 ingress (mean 12.85 Mbps)
- Flow 3 egress (mean 12.83 Mbps)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 25.10 ms)
- Flow 2 (95th percentile 34.55 ms)
- Flow 3 (95th percentile 23.03 ms)
Run 4: Statistics of PCC-Vivace

Start at: 2019-07-12 17:42:53
End at: 2019-07-12 17:43:23
Local clock offset: 2.865 ms
Remote clock offset: -2.219 ms

# Below is generated by plot.py at 2019-07-12 18:45:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 88.83 Mbit/s
95th percentile per-packet one-way delay: 1146.274 ms
Loss rate: 1.12%
-- Flow 1:
Average throughput: 55.36 Mbit/s
95th percentile per-packet one-way delay: 1192.622 ms
Loss rate: 1.67%
-- Flow 2:
Average throughput: 36.36 Mbit/s
95th percentile per-packet one-way delay: 34.315 ms
Loss rate: 0.16%
-- Flow 3:
Average throughput: 28.18 Mbit/s
95th percentile per-packet one-way delay: 25.505 ms
Loss rate: 0.30%
Run 4: Report of PCC-Vivace — Data Link
Run 5: Statistics of PCC-Vivace

Start at: 2019-07-12 18:12:11
End at: 2019-07-12 18:12:41
Local clock offset: 7.762 ms
Remote clock offset: -3.334 ms

# Below is generated by plot.py at 2019-07-12 18:45:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 85.99 Mbit/s
  95th percentile per-packet one-way delay: 174.071 ms
  Loss rate: 0.34%
-- Flow 1:
  Average throughput: 56.62 Mbit/s
  95th percentile per-packet one-way delay: 250.675 ms
  Loss rate: 0.41%
-- Flow 2:
  Average throughput: 32.12 Mbit/s
  95th percentile per-packet one-way delay: 35.911 ms
  Loss rate: 0.17%
-- Flow 3:
  Average throughput: 24.29 Mbit/s
  95th percentile per-packet one-way delay: 32.428 ms
  Loss rate: 0.27%
Run 5: Report of PCC-Vivace — Data Link

![Graph 1: Throughput (Mbps)](image1)

- Flow 1 ingress (mean 56.81 Mbps)
- Flow 1 egress (mean 56.62 Mbps)
- Flow 2 ingress (mean 32.12 Mbps)
- Flow 2 egress (mean 32.12 Mbps)
- Flow 3 ingress (mean 24.30 Mbps)
- Flow 3 egress (mean 24.29 Mbps)

![Graph 2: Per-packet one-way delay (ms)](image2)

- Flow 1 (95th percentile 250.68 ms)
- Flow 2 (95th percentile 35.91 ms)
- Flow 3 (95th percentile 32.43 ms)
Run 1: Statistics of WebRTC media

End at: 2019-07-12 16:23:18
Local clock offset: 4.235 ms
Remote clock offset: -2.201 ms

# Below is generated by plot.py at 2019-07-12 18:45:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 2.85 Mbit/s
  95th percentile per-packet one-way delay: 22.789 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 1.71 Mbit/s
  95th percentile per-packet one-way delay: 22.835 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.82 Mbit/s
  95th percentile per-packet one-way delay: 22.756 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.33 Mbit/s
  95th percentile per-packet one-way delay: 22.615 ms
  Loss rate: 0.01%
Run 1: Report of WebRTC media — Data Link

![Throughput Graph](image1)

![Packet Delay Graph](image2)

- **Flow 1 ingress** (mean 1.71 Mbit/s)
- **Flow 1 egress** (mean 1.71 Mbit/s)
- **Flow 2 ingress** (mean 0.82 Mbit/s)
- **Flow 2 egress** (mean 0.82 Mbit/s)
- **Flow 3 ingress** (mean 0.33 Mbit/s)
- **Flow 3 egress** (mean 0.33 Mbit/s)

236
Run 2: Statistics of WebRTC media

Start at: 2019-07-12 16:52:25
End at: 2019-07-12 16:52:55
Local clock offset: 3.578 ms
Remote clock offset: -2.757 ms

# Below is generated by plot.py at 2019-07-12 18:45:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.90 Mbit/s
95th percentile per-packet one-way delay: 22.427 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 1.54 Mbit/s
95th percentile per-packet one-way delay: 22.411 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 22.491 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.41 Mbit/s
95th percentile per-packet one-way delay: 22.255 ms
Loss rate: 0.77%
Run 2: Report of WebRTC media — Data Link
Run 3: Statistics of WebRTC media

Start at: 2019-07-12 17:22:04
End at: 2019-07-12 17:22:34
Local clock offset: 2.96 ms
Remote clock offset: -3.623 ms

# Below is generated by plot.py at 2019-07-12 18:45:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.73 Mbit/s
95th percentile per-packet one-way delay: 22.763 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.59 Mbit/s
95th percentile per-packet one-way delay: 22.812 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 22.446 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 22.848 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-07-12 17:51:24
End at: 2019-07-12 17:51:54
Local clock offset: 2.993 ms
Remote clock offset: -4.363 ms

# Below is generated by plot.py at 2019-07-12 18:45:28
# Datalink statistics
-- Total of 3 flows:
Average throughput: 2.89 Mbit/s
95th percentile per-packet one-way delay: 21.937 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 1.60 Mbit/s
95th percentile per-packet one-way delay: 21.882 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.96 Mbit/s
95th percentile per-packet one-way delay: 22.010 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.34 Mbit/s
95th percentile per-packet one-way delay: 21.701 ms
Loss rate: 0.62%
Run 4: Report of WebRTC media — Data Link

![Graph showing throughput and per-packet round-trip time for different flows.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 1.60 Mbps)
  - Flow 1 egress (mean 1.60 Mbps)
  - Flow 2 ingress (mean 0.96 Mbps)
  - Flow 2 egress (mean 0.96 Mbps)
  - Flow 3 ingress (mean 0.34 Mbps)
  - Flow 3 egress (mean 0.34 Mbps)

- **Per-packet round-trip time (ms):**
  - Flow 1 (95th percentile 21.88 ms)
  - Flow 2 (95th percentile 22.01 ms)
  - Flow 3 (95th percentile 21.70 ms)
Run 5: Statistics of WebRTC media

Start at: 2019-07-12 18:20:51
End at: 2019-07-12 18:21:21
Local clock offset: 8.686 ms
Remote clock offset: -2.823 ms

# Below is generated by plot.py at 2019-07-12 18:45:28
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 3.00 Mbit/s
  95th percentile per-packet one-way delay: 20.300 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 1.60 Mbit/s
  95th percentile per-packet one-way delay: 20.238 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.95 Mbit/s
  95th percentile per-packet one-way delay: 20.287 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.46 Mbit/s
  95th percentile per-packet one-way delay: 20.504 ms
  Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

![Graph showing throughput and delay over time for different flows.]

- Flow 1 ingress (mean 1.60 Mbit/s)
- Flow 1 egress (mean 1.60 Mbit/s)
- Flow 2 ingress (mean 0.95 Mbit/s)
- Flow 2 egress (mean 0.95 Mbit/s)
- Flow 3 ingress (mean 0.46 Mbit/s)
- Flow 3 egress (mean 0.46 Mbit/s)